NEW ENGLAND DISTRICT

The New England District comprises all of New England except western Vermont and small portions of Massachusetts and Connecticut along their western boundaries, and includes small portions of southeastern New York. These areas are all embraced in the drainage basins tributary to Long Island Sound and the Atlantic Ocean east of the New York-Connecticut State line. The District also includes Fishers Island, NY.

IMPROVEMENTS

Navigation

Beach Erosion Control

Flood Control

Flood Control (Continued) Page

Environmental

General Investigations

Tables Page

Navigation

1. AUNT LYDIA'S COVE, CHATHAM, MA

Location. Aunt Lydia's Cove is located in Chatham Harbor, Chatham, Massachusetts. The cove is located on the "elbow" of Cape Cod approximately 90 miles southeast of Boston, Massachusetts. (See National Ocean Service Coast Survey Chart 13248.)

Existing project. Provides for an entrance channel 8 feet deep and 100 feet wide for a length of 900 feet and a 9.5-acre anchorage also to a depth of 8 feet. Work was completed in June 1995. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The Chatham Municipal Fish Pier is the only terminal facility in Aunt Lydia's Cove. Initially constructed in 1945, the pier is used to offload catch, access boats, load supplies and perform some repairs. Two independent fish companies lease space at the pier's main packing facility where fish are offloaded, packed in ice and shipped to various distributors. The pier provides diesel fuel, gasoline, parking and restroom facilities. Transient and recreational boaters use the pier for loading, offloading, and refueling. This facility is adequate for existing commerce.

Operations during fiscal year. Maintenance: Dredging of the Federal channel was performed by the Government-owned dredge CURRITUCK from June 1 to June 20, 2003. About 49,715 cubic yards of sand were removed and placed in a near shore disposal area southeast of the dredging area and outside the outer bar. A minor amount of material was placed at a near shore area off Andrews Harding Beach. Plant rental cost was $192,240. Associated costs included $20,000 for the Waterways Experiment Station's continuing evaluation of coastal processes related to dredging, hired labor costs of $29,920 for performing and plotting pre- and after- dredge surveys and $11,516 for project coordination and management.

2. BELFAST HARBOR, ME

Location. Belfast Harbor is located at the mouth of the Passagasaweag River along the northwest side of Penobscot Bay, about 25 miles north of Rockland Harbor, Maine. (See National Ocean Service Coast Survey Chart 13309.)

Previous project. For details see Annual Report for 1897.

Existing project. Provides for a channel 15 feet deep and 220 feet wide, extending about 1,000 feet from deep water in Penobscot Bay to the wharves on the south side of Belfast Harbor. The project also includes two anchorage areas on the east and west sides of the channel, 8 and 13 feet deep respectively. Dredging was completed in 1897. (See Table 1-B for Act authorizing the existing project.)

Terminal facilities. There are nine wharves located along the south side of Belfast Harbor below the highway bridge. None of these wharves are publicly owned. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: A continuing contract for maintenance dredging of the 15-foot channel and 8-foot east anchorage area was awarded on September 28, 2002. Work was performed from November 15, 2002 to April 14, 2003. A total of 94,000 cubic yards of material was removed by mechanical dredge and disposed of at the Rockland Disposal Site, about 30 miles away. Total contract cost, including modifications, was $1,247,076. A lobster survey and report was conducted for $25,000 as a condition of State approvals. Hired labor costs were $126,154 for supervision and administration, $57,102 for project coordination and management, $78,923 for surveys, $1,800 for engineering support, $2,050 for safety, and $2,018 for contract processing.

3. BOSTON HARBOR, MA

Location. Boston Harbor includes all expanse of tidewater lying within a line from Point Allerton to Point Shirley and extending from that line westward to the mainland. This comprises an area of about 47 square miles, exclusive of the islands. (See National Ocean Service Coast Survey Charts 13270 and 13272.)

Previous project. For details see the Annual Reports for 1915, 1917, and 1938.

Existing project. Completed work at Boston Harbor, adopted in 1825 and supplemented by enactments through 1958, provides for the improvement of the harbor proper and its approaches - Fort Point Channel, Reserved Channel, Chelsea River and Weir River. For a more detailed description see page 3 of the Annual Report for 1974. These improvements were completed in May 1966 with the construction of the Chelsea River 35-foot channel and maneuvering basin. New work involves deepening the Mystic River and Reserved Channels from 35 to 40 feet and the Chelsea River Channel from 35 to 38 feet; widening and deepening to 40 feet the Inner Confluence Area which provides access to the Mystic and Chelsea River Channels; and widening at the entrance to the Reserved Channel. The proposed project would increase the navigational efficiency and safety of harbor operations and reduce tidal delays for larger vessels. New work was completed in December 2001. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. A Project Cooperation Agreement was signed on February 13, 1998 between the Corps and the Massachusetts Port Authority for the new work. Consistent with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the non-Federal sponsor must pay 25 percent of the costs allocated to deep draft navigation during construction; reimburse an additional ten percent of the costs allocated to deep draft navigation within a period of 30 years following completion of construction (partially offset by a credit allowed for the value of lands, easements, rights-of-way, relocations and dredged material disposal areas); relocate utilities necessary for construction of the project; and deepen berthing areas at the terminals of project beneficiaries.

Terminal facilities. There are 156 wharves and piers in the harbor, not including Mystic, Weymouth-Fore, and Town Rivers, which are reported elsewhere. Of the terminals, 28 are publicly owned, 13 are open to public use, 73 have mechanical-handling facilities, and 70 have railroad connections. Facilities are considered adequate for existing commerce. For a full description of channel facilities in Chelsea River, refer to House Document 350, 87th Congress, 2nd session. (See Port Series No. 3, Part 2, Port of Boston, MA dated 1967.)

Operations during fiscal year. New work: A contract for improvement dredging was awarded May 18, 1998. Work began in August 1998 and was completed in December 2001, except for backfilling of the McArdle Bridge cable trench, which was completed in June 2002. Final contract amount was $41,961,717, of which $18,109,638 was for navigation improvement work. Meetings were held with the project sponsor to review their costs of lands, easements, rights-of-way, and utility relocations (LERR), and to discuss final project cost sharing.

Maintenance: Maintenance dredging was performed in conjunction with improvement work. Final contract amount for maintenance work was $18,085,157. An adjustment of $-57,590 was made to previously reported expenditures to reflect final apportionment of contract costs. In addition to the recently completed maintenance work, $68,646 was expended developing plans and specifications for proposed maintenance dredging of the 40-foot Main Ship and North Channels. Maintenance work was advertised for bids on June 3, 2003, but the solicitation was postponed until next FY due to funding constraints.

4. BRIDGEPORT HARBOR, CT

Location. Bridgeport Harbor is located on the north shore of Long Island Sound, about 51 miles east of New York City. (See National Ocean Service Coast Survey Chart 12369.)

Previous project. For details see the Annual Reports for 1915 and 1938.

Existing project. For a description of the completed improvements see the Annual Report for 1668. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. There is no reasonable prospect that required cooperation will be forthcoming from local interests for the breakwaters at Black Rock Harbor and the Burr and Cedar Creek anchorages. For further details see the Annual Report for 1968.

Terminal facilities. There are 35 waterfront facilities serving the port of Bridgeport. Three wharves are owned by the City of Bridgeport. (See Port and Terminal Facilities of Southern New England No. 4, revised in 1952.) Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Contract costs of $103,499 were incurred for additional sampling and testing of entrance channel sediment to re-evaluate its suitability for unconfined open water disposal. Hired labor costs in association with proposed maintenance dredging of the Federal project included $1,503 for completing the Preliminary Environmental Assessment, $9,542 to initiate economic evaluation efforts as part of the Dredged Material Management Plan (DMMP), and $8,318 project management including coordination with EPA for the suitability determination

5. CAMDEN HARBOR, ME

Location. Camden Harbor is located on the west side of Penobscot Bay about 8 miles north of Rockland, Maine. (See National Ocean Service Coast Survey Chart 13307.)

Existing project. Provides for a 14-foot outer harbor and a 10-foot inner harbor. Work was completed in 1911. For authorizing Legislation, see the Annual Report for 1960.

Local cooperation. None required.

Terminal facilities. There are eight wharves on the inner harbor, six of which are used for handling general supplies, one for pleasure craft and one is equipped with marine railway used for building and repairing boats. There is one wharf on the outer harbor. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the channels was awarded on September 28, 2002. Dredging began in November 2002 and was completed in January 2003. A total of 13,090 cubic yards of material were removed by mechanical dredge and

placed in open water at the Rockland Disposal Site. Contract costs were $381,919. A study to evaluate disposal impacts on lobsters was conducted for $25,0000 as a condition of State approvals. Hired labor costs were $32,428 for after-dredge surveys, $19,735 for contract supervision and administration, $345 for contract processing, and $21,252 for project coordination and management.

6. CAPE COD CANAL, MA

Location. This waterway is a sea level canal; extending from the head of Buzzards Bay, Massachusetts, easterly to a point on Cape Cod Bay about 15 miles southeast of Plymouth Harbor, Massachusetts. (See National Ocean Service Coast Survey Chart 13246.)

Existing project. For a description of existing project see the Annual Report for 1975. Navigational improvements were completed in April 1963, with completion of the East Boat Basin extension. Initial recreational development consists of public use facilities at various locations, which were completed in February 1965. Improvements to public use facilities at the East Boat Basin were completed in May 1974. Construction of public use facilities at Bourne Scenic Park were completed in May 1976. Cape Cod Canal is crossed by two high-level highway bridges and a vertical-lift railroad bridge. Major rehabilitation of Bourne Highway Bridge was completed in December 1965 and major rehabilitation of the Sagamore Highway Bridge was completed in 1982. Minor rehabilitation of the stone breakwater was completed in October 1963. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work. Local interests must also bear 50 percent of future recreational development in accordance with the 1965 Federal Water Project Recreation Act.

Terminal facilities. There are seven terminals on the canal, of which three are privately owned. Four are used for receipt and freezing of fish and two are used for receipt and storage of oil. The seventh terminal is the State pier, which is owned by the Commonwealth of Massachusetts, and is located on the north bank of the canal at Bourne Neck. Terminals are adequate for existing commerce.

Operations during fiscal year. Major rehabilitation: A contract for Phase I rehabilitation of the Buzzards Bay Railroad Bridge was awarded on August 4, 2000. Phase I work involves repairing or replacing steel members and painting of the superstructure. Work began in April 2001 and was about 98 percent complete at FY end with total contractor earnings of $14,020,013. A contract for Phase II rehabilitation work was awarded on June 28, 2002. Phase II work involves replacing the counterweight cables, trunion bearings, electrical control system and main switchboard. This work required the bridge to be inoperable for a 90-day shut down period. Despite adverse weather conditions, the replacement of the operating system was successfully completed during the 90-day shutdown period, which extended from March 2, 2003 through June 1, 2003. The lift span was usable for rail traffic on June 2, 2003. The contractor worked double shifts and some weekends to meet this aggressive schedule. At the end of the FY about 98 percent of Phase II work was complete with contractor earnings of $12,977,614.

Maintenance: The cost of operation and maintenance work at the Cape Cod Canal totaled $8,815,292. Operation and maintenance work included $5,006,947 for navigation features, $1,502,377 for recreational facilities, $128,915 for natural resources, and $193,000 for the Buzzards Bay Railroad Bridge. Other costs include $65,412 for general real estate activities, $23,750 for contract audit, $169,429 for inspection of the Bourne and Sagamore Highway Bridges, $75,180 for engineering and design, $161,000 for security plan, $100,000 for force protection, $1,470 for safety support, $164,177 for pre- and after-dredge surveys, $30,500 for contract administration, $18,755 for sampling and testing, and $56,870 for supervision and inspection of contracts, including those described below. A contract to repair docks and mooring dolphins was awarded on September 8, 2000. Work began in late September 2000 and was completed in February 2002. Contractor had no earnings this FY and final payment is still pending. A contract for concrete and pavement repairs on the Bourne and Sagamore Highway Bridges was awarded on September 27, 1999. Work began in October 1999 and was about 90 percent complete at FY end. Contractor earnings total $2,640,239, none of which was earned this FY. Final contract payment is still pending. A contract for deck repairs and paving of the Bourne and Sagamore Highway Bridges was awarded March 31, 2000. Work began in April 2000, but was terminated for the convenience of the Government on September 10, 2001. Negotiations are still underway with the contractor to determine final contract amount. A contract for maintenance dredging of the Cape Cod Canal was awarded on August 8, 2002. Work began in September 2002 and was completed on November 15, 2002. A total of 117,000 cubic yards of material was dredged. Contractor earnings this FY were $1,107,510 for a total contract cost of $2,307,508. A contract for sandblasting and painting the Bourne Highway Bridge was awarded on September 20, 2003. Work had not begun by FY end.

7. COCHECO RIVER, NH

Location. The Cocheco River is located about 9 miles northwest of Portsmouth, New Hampshire. (See National Ocean Service Coast Survey Chart 13285.)

Existing project. Provides for a 7-foot tidewater channel 60 to 75 feet wide (7.5 feet deep and 50 feet wide in rock), extending from the confluence of the Cocheco and Piscataqua Rivers to the head of navigation at the Upper Narrows in Dover, New Hampshire. Work was completed in 1906. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The channel is used primarily by recreational craft based at a marina located near the head of the waterway.

Operations during fiscal year. Maintenance: Hired labor costs incurred in association with the proposed maintenance dredging of the Federal project included $5,000 for continued work on an environmental assessment; $125,300 for preparation of plans and specifications; and $30,000 for project coordination and management.

8. GREEN HARBOR, MA

Location. Green Harbor is located within the town of Marshfield on the west side of Massachusetts Bay, about 30 miles southeast of Boston, Massachusetts, and 9 miles north of Plymouth Harbor, Massachusetts. (See National Ocean Service Coast Survey Chart 13253.)

Existing project. For a description of the existing project see the Annual Report for 1995. Construction was completed in October 1969. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The major terminal facility is the Town Pier in the village of Brant Rock. The facility is an earth-filled bulkhead with landing and parking area about 290 feet wide, extending 210 feet into harbor. A marina service is south of the Town Pier; and a facility for recreational craft has been developed on the south side of the harbor near the head of navigation.

Operations during fiscal year. Maintenance: Dredging of the entrance channel was performed by the Government-owned dredge CURRITUCK from May 13 to 31, 2003. About 23,890 cubic yards of sand and cobbles were removed and placed in a near shore site off of Green Harbor Beach. Plant rental cost was $239,410. Associated hired labor costs included $20,400 for performing and plotting pre- and after-dredge hydrographic surveys, and $34,772 for project coordination and management.

9. HARBOR OF REFUGE, BLOCK ISLAND, RI

Location. The Block Island Harbor of Refuge is located on the east side of Block Island, about 13 miles southwest from Point Judith Harbor, Rhode Island, and about 25 miles southeasterly from Stonington Harbor, Connecticut. (See National Ocean Survey Chart 13217.)

Existing project. For a description of the existing project, see the Annual Report for 1967. The project was completed in 1916 except for dredging of two 15-foot anchorages in the outer harbor west of the entrance channel, which were deauthorized in November 1986. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. None required.

Terminal facilities. There are two wharves in the harbor, both steel sheet pile bulkhead, which comprise the southern and eastern limits of the basin. Total docking space amounts to 500 feet. No mechanical-handling facilities are available. One wharf, owned by the town and open to the public, is considered inadequate for present general needs of boating in the harbor. There is limited room for expansion of terminal facilities.

Operations during fiscal year. Maintenance: Work consisted of investigations in anticipation of repairing the east bulkhead of the harbor's Inner Basin. Associated contract costs for this work consisted of $11,200 for geotechnical explorations. Hired labor costs associated with this effort consisted of $8,500 for a topographic survey; $18,300 for preliminary engineering; and $13,800 for project coordination and management.

10. KENNEBEC RIVER, ME

Location. The Kennebec River flows from Moosehead Lake in northern Maine about 150 miles southerly and discharges into the Atlantic Ocean at Popham Beach in Phippsburg, about 25 miles east of Portland, Maine. (See National Ocean Service Coast Survey Chart 13298.)

Previous project. For details see the Annual Reports for 1915 and 1938.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1992.

Local cooperation. None required.

Terminal facilities. Wharves suitable for landing or loading are at Bath, Woolwich, Richmond, Randolph, Gardiner, Hallowell and Augusta. Rail connections are

available at some wharves. Depths range from 12 to 25 feet. Many facilities are equipped with a mechanism for handling passengers and freight. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: A solicitation for emergency maintenance to clear restrictive shoals in the Doubling Point and North Sugarloaf Island reaches of the 27-feet deep Federal channel for the USS CHAFEE, a US Navy Destroyer, was issued on September 19, 2003. Bids were opened on September 26, 2003 and a continuing contract for $534,625 was awarded to Great Lakes on September 26, 2003. Notice to proceed was issued on September 29, 2003 and Great Lakes mobilized the hopper-dredge PADRE ISLAND from Sabine, Texas. Dredging had not begun by FY end. Contract costs associated with mobilization of the dredge were $105,800. Hired labor costs included $24,974 for performing and plotting a pre-dredge survey, $300 for preparations of plans and specifications and $1,200 for contract processing.

11. KENNEBUNK RIVER, ME

Location. The Kennebunk River flows about 15 miles southeasterly along the border of Kennebunk and Kennebunkport, two popular summer resort communities on the coast of Maine. The river empties into the Atlantic Ocean about 30 miles southwest of Portland, Maine (See National Ocean Service Coast Survey Chart 13286.)

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1977. The project was completed in December 1968, with completion of rock removal at the entrance to the west channel. Extension of the west jetty was completed in April 1965. Dredging and sand fences were completed in November 1965.

Local cooperation. Fully complied with for completed work.

Terminal facilities. There is one landing available to the public, the other 21 are private and include 2 yacht clubs, a hotel and 2 boatyards. Marine railway facilities include two 15-ton and one 10-ton capacity lifts. There are 4 berths and 10 moorings. Open storage, boat building, repairs, and supplies are available for pleasure and commercial craft. Public landing of granite block construction has unloading facilities used by fishing craft to transfer catches. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Hired labor costs incurred in association with the proposed maintenance dredging of the Federal project were $3,238 for project coordination and management, $3,386 for continued work on the environmental assessment, $6,500 for preparation of plans and specifications, $1,815 for construction review of plans and specifications, and $159 for contract processing.

12. LITTLE HARBOR, NH

Location. Little Harbor is located on the west side of Portsmouth Harbor between New Castle Island and the New Hampshire mainland. (See National Ocean Service Coast Survey Chart 13278.)

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1976.

Local cooperation. None required.

Terminal facilities. One dock owned by Wentworth Hotel, but not available to public. Tentative State plans include a small boat landing and shore facilities.

Operations during fiscal year. Maintenance: Eelgrass monitoring was conducted at three sites (Little Harbor 2.5 acres, Kittery Point 1.5 acres, and Pierces Island 1.5 acres) to determine if specific replanting goals were met. Final monitoring results determined that these goals were met and that additional replanting is not required. Costs to conduct monitoring activities were $14,000 under a contract with the Waterways Experiment Station and $27,317 for in-house labor.

13. NARRAGUAGUS RIVER, ME

Location. The Narraguagus River originates in Eagle Lake and flows southeasterly for about 49 miles to Narraguagus Bay and the Atlantic Ocean. (See National Ocean Service Coast Survey Chart 13324.)

Previous projects. For details see the Annual Report for 1907.

Existing project. Provides for a channel 11 feet deep and 150 feet wide from deep water in Narraguagus Bay to Wyman, then 9 feet deep and 100 feet wide to Milbridge, and then 6 feet deep and 100 feet wide to the landing downstream from the Route 1A Highway Bridge. The project includes three 6-foot anchorage areas adjacent to the 6-foot channel in Milbridge, widening at the turn in Wyman, and a turning basin near the landing in Milbridge. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are four major wharves along the Narraguagus River. One is on the east bank, a short

distance downstream of the Route 1A Highway Bridge, two are on the west bank in Milbridge, and the fourth is near the mouth of the river at Wyman. All are privately owned and in fair condition. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Work this FY consisted of continued investigations in preparation for proposed maintenance dredging of the Federal channels. Hired labor costs included $5,755 for project management and completion of an environmental assessment, $14,960 for surveys and drawings, $250 for contract administration, and $14,249 for preparation of plans and specifications. Contract costs of $3,224 were incurred for final payment on a subsurface exploration contract completed in the prior FY. Work next FY will include solicitation of bids and award of a contract for the first phase of maintenance dredging of the project.

14. NEWBURYPORT HARBOR, MA

Location. Newburyport Harbor is located at the mouth of the Merrimack River, about 4 miles south of the Massachusetts and New Hampshire state line and about 48 miles north of Boston, Massachusetts. (See National Ocean Service Coast Survey Chart 13282.)

Existing project. See the Annual Report for 1994 for a description of the existing project. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. Facilities extending along the south bank of the Merrimack River below the Route 1 highway bridge include several marinas, a yacht club, public landing and a commercial fish pier. There are 4 marinas and one town pier located along the north side of the river. Terminal facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: Work consisted of investigations in anticipation of maintenance dredging of the Federal project. A sampling and testing contract was conducted at a possible near shore disposal site for $2,200. Hired labor costs included $879 for administration of the sampling and testing contract and $2,488 to determine the estimated cost for pumping the dredged sand onto a nearby beach.

15. NEW HAVEN HARBOR, CT

Location. New Haven Harbor is located on the north shore of Long Island Sound, about 75 miles east of New York City. (See National Ocean Survey Chart 12371.)

Previous project. For details, see Annual Reports for 1915 and 1938.

Existing project. A main channel 35 feet deep, 400 to 800 feet wide, from Long Island Sound to Tomlinson Bridge; two anchorage basins below Tomlinson Bridge of 16 and 15-foot depths; a pile-and-riprap dike about 4,200 feet long, to contract tidal flow at Fort Hale Bar; a channel 12 feet deep and 100 to 150 feet wide, from southwest corner of 16-foot anchorage basin via City Point and West Haven Wharf front to Kimberly Avenue Bridge; thence 12 feet deep and prevailing width of 75 feet up West River to about 600 feet upstream of Kimberly Avenue Bridge, and an anchorage basin six feet deep in West River opposite Mars Wharf; a channel 100 feet wide and 12 feet deep from 15-foot anchorage basin toward Brewery Street, about 300 feet; a channel in Quinnipiac River 22 feet deep and 250 to 400 feet wide to a point about 1,000 feet above Ferry Street, thence 16 feet deep and 200 feet wide to Grand Avenue, with turning basin 22 feet deep, 200 to 800 feet wide, and 700 feet long at mouth of Mill River; a channel up Miller River 12 feet deep, 200 feet wide to junction of two branches above Chapel Street, thence to Grand Avenue, 100 feet wide in East Branch and generally 125 feet wide in West Branch; and removal of certain obstructive rocks in Morris Cove. Existing project was completed in 1961. The 22-foot channel and turning basin is to be restudied. Estimated cost (1960) of this portion is $980,000. For authorizing legislation, see the Annual Report for 1995.

Local cooperation. Fully complied with for completed work.

Terminal facilities. The Port of New Haven is served by 24 waterfront facilities; most are within city limits of New Haven. Improved waterways within port area along which facilities are located include West River, Main Harbor, West and East Branches of the Mill River, and Quinnipiac River channels. Facilities are all privately owned and operated with the exception of City Wharf and the U.S. Coast Guard Wharf. Depths alongside piers and wharves range from 35 to zero feet at mean low water. Some of the facilities have rail connections and all are accessible by paved streets. Facilities are adequate for existing commerce. (For further details see Ports of Southern New England No. 4, revised 1983.)

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the Federal channel was awarded on November 26, 2002. Work commenced on January 6, 2003 and continued until January 31, 2003 when work was discontinued due to environmental restrictions. The contractor removed 252,224 cubic yards of material and is scheduled to return next FY to complete maintenance work. Contract costs totaled $1,402,426. Hired labor costs included $20,980 for project management and coordination,

$89,144 for pre- and after- dredge surveys, $18,776 for a subsurface survey to investigate under channel utility lines, and $43,822 for supervision and administration of the dredging contract.

16. NORWALK HARBOR, CT

Location. Norwalk Harbor is located on the north shore of Long Island Sound, about 10 miles east of New York City. (See National Ocean Survey Chart 12368.)

Previous project. For details, see Annual Reports for 1915 and 1938.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1973. The project was completed in 1950.

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. Maintenance: Work consisted of investigations in preparation of proposed maintenance dredging of the Federal project. Contract costs included $68,640 for boring and sampling work at a possible in-river location for construction of a confined aquatic disposal cell, and $6,176 for physical and chemical testing of the samples. Hired labor costs associated with this project were $7,419 for geotechnical engineering, $32,215 for surveys, $40,370 for project coordination and management, $16,349 for preparation of plans and specifications, $461 for construction review of plans and specifications, $1,324 for contract processing and $208 for safety.

17. PENOBSCOT RIVER, ME

Location. The Penobscot River drains a large number of lakes and small streams in north, central and eastern Maine, then flows southerly about 100 miles through the middle of the state to Penobscot Bay, about 90 miles northeast of Portland, Maine. (See National Ocean Service Coast Survey Chart 13309.)

Previous projects. For details see the Annual Reports for 1915, 1938 and 1949.

Existing project. Provides for a channel 22 feet deep and 350 feet wide between Bucksport and Winterport, 15 feet deep near Stearns Mill and Crosby's Narrows with some widening and straightening of the channel in these areas, and 14 feet deep and 100 to 300 feet wide at Bangor Harbor. The existing project was completed in 1913. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The riverfront at Bangor has 12 wharves, most of which are timber crib with stone ballast. Eleven wharves have railroad connections. On the east side of the river opposite Bangor, there is one water terminal, a coal handling plant having mechanical appliances and three petroleum products storage plants. At South Brewer there is a large pulp and paper plant, which has water connections, oil pumping and storage facilities. A number of private wharves are open to the public at moderate charges. At Bucksport along the north side of the river there are three important terminals, one a coal handling plant and two used by a large paper manufacturing plant which has terminal facilities for receipt and storage of oil products and pulpwood. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Hired labor costs of $1,004 were incurred for work on identifying possible in-river disposal sites for proposed maintenance dredging.

18. PLYMOUTH HARBOR, MA

Location. Plymouth Harbor is located about 45 miles south of Boston, Massachusetts. Its outer anchorage, the "Cow Yard," is common to Plymouth, Duxbury, and Kingston, Massachusetts. (See National Ocean Service Coast Survey Chart 13253.)

Previous projects. For details see the Annual Reports for 1915 and 1938.

Existing project. Provides for riprap along sections of Long Beach damaged by the storm of November 1898 and restoring the Eel River to its former course; a channel 18 feet deep and 200 feet wide, increased at the entrance and on curves, from the bay to the town wharves, a distance of about 2.5 miles, with a suitable turning basin at the inner end; a channel 15 feet deep and 150 feet wide extending northwesterly about 0.3 miles from the State Pier with a 15-foot turning basin 300 feet square at its northwesterly end; maintenance of the area dredged by the Commonwealth of Massachusetts to 18 feet deep connecting the 15-foot and 18-foot channels in the vicinity of the State Pier; a rubble stone breakwater extending 1,400 feet easterly thence 2,100 feet southeasterly from the town wharf; an 8-foot anchorage, 60 acres in area, inside the breakwater; and recreational development to provide for sport fishing from the breakwater, consisting of a stone causeway about 360 feet long extending from the westerly end of the breakwater to land, a guardrail along the top of the breakwater, a footbridge spanning the navigation opening through the breakwater, parking and sanitary facilities. Construction of the 8-foot anchorage was completed in 1967. Construction

of the breakwater along with rehabilitation of Long Beach Dike was completed in 1971. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are 3 wharves of pile and timber construction; one is owned by the State, one by the town and one by the Plymouth Yacht Club. The State and town wharves are open to the public. In addition there are two boatyards with marine railway facilities along the waterfront, equipped for boat building and repairs. Local interests maintain the existing public landings open to all on equal terms and provide all necessary mooring facilities in the anchorage. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: Hired labor costs incurred in connection with proposed repairs to the Long Beach Dike included $15,600 for topographic surveys, $22,800 for preparation of contract plans and specifications, and $22,800 for project coordination and management. Construction activities proposed for this FY were deferred pending receipt of local permits by the town.

19. POINT JUDITH POND AND HARBOR OF REFUGE, RI

Location. Point Judith marks the southwestern entrance to Narragansett Bay. The harbor lies in shallow bight west of the point, about 14 miles southwest of Newport Harbor, RI, and 33 miles east of New London Harbor, CT. Point Judith Pond is a shallow salt pond, lying inland of the beach, with a length north and south of about four miles. A small artificial opening through the beach and sand dunes connects this pond to the ocean. (See National Ocean Surveys Charts 13218 and 13219.)

Previous project. For details see Annual Report for 1948.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1977. All work for the project authorized prior to 1949 was completed in 1950. Breakwaters were completed in 1914 and dredging of shoals in project area was done in 1921. The main and east shore arm breakwaters had deteriorated and required restoration to project design. Reconstruction of the east arm breakwater and main breakwater dock facilities were completed in 1962. Rehabilitation required for remainder of breakwater restoration was completed in October 1963. The extension of the 15-foot channel was completed in April 1977.

Local cooperation. Fully complied with for completed work.

Terminal facilities. Consist of one town wharf of steel sheet pile bulkhead construction, which comprises southern and eastern limits of basin. Total docking space amounts to 500 feet. No mechanical handling facilities are available. Wharf is owned by the town and open to the public. State of Rhode Island maintains two State piers, one in Galilee and one in Jerusalem, each having about 500 feet of berthing space. A facility comprising a bulkhead with 15 finger piers provides berthing space of about 4,000 linear feet. This facility is used for receipt of fish and fish products. Mechanical handling facilities including fish pumps, are available for discharge of cargo. In addition, there are approximately ten small privately owned wharves used in the fishing business and passenger traffic. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Work consisted of investigations in anticipation of maintenance dredging and repairs to the stone breakwaters. Contract costs associated with this project consisted of $29,000 for a SHOALS survey of the breakwater, and $43,000 for sampling and testing of sediments to be dredged from the Federal channels and anchorage. Hired labor costs associated with the maintenance dredging work consisted of $3,500 for development of an Environmental Assessment and $14,900 for project coordination and management.

20. PORTLAND HARBOR, ME

Location. Portland Harbor is located on the southwestern coast of Maine, about 100 miles northeast of Boston, Massachusetts. (See National Ocean Service Coast Survey Chart 13292.)

Previous projects. For details see the Annual Reports for 1915 and 1936.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1978. The project was completed in 1966, except for ledge removal that was completed in 1968.

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are 37 waterfront facilities, seven of these facilities are publicly owned; the U.S. Government owns four, the State of Maine owns two, and the City of South Portland owns one. Mechanical-handling facilities are available at 24 wharves and railroad connections have been made to 27 wharves. The facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: The contractor who performed the last maintenance dredging work, which was completed in FY 1999, submitted a request for equitable adjustment based on contract delays and final contract quantities. Based on contract settlement, an adjustment of $80,815 was made to previous expenditures. Hired labor costs included $6,940 for contract settlement, $47,800 for project condition surveys and $17,900 for project coordination and management.

21. PROVIDENCE RIVER AND HARBOR, RI

Location. The Providence River originates in Providence, Rhode Island at the junction of two small streams, the Woonasquatucket and Moshassuck Rivers. It then flows southerly about a mile to the head of Providence Harbor at Fox Point where it is joined by the Seekonk River and continues southerly another 8 miles to Narragansett Bay. (See National Ocean Service Coast Survey Charts 13224 and 13225.)

Previous projects. For details see the Annual Reports for 1915, 1936, and 1938.

Existing project. Provides for a channel 16.8 miles long and 40 feet deep, generally 600 feet wide from deep water in Narragansett Bay just south of Prudence Island Light to the turn below Field Point at Providence, thence up to 1,700 feet wide to Fox Point. The existing 40-foot channel was completed in January 1976. Dredging of a 30-foot channel, 150 feet wide from the upper end of the existing project to India Point at the mouth of the Seekonk River was deauthorized in November 1986. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Local interests have yet to provide berthing areas commensurate to channel depths.

Terminal facilities. There are 27 water terminal facilities serving the port of Providence, Rhode Island. Three-fourths of all facilities have railway connections. The City of Providence owns four of these facilities and the State of Rhode Island owns two others. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the Federal project was awarded on December 20, 2002 to Great Lakes Dredge and Dock Company. Work was initiated on April 12, 2003 and was continuing at FY end. Costs incurred for maintenance dredging of 1,374,851 cubic yards of material was $14,228,871 ($14,107,510 Federal, $1,345,530 Non-Federal). Additional costs incurred were $332,113 for supervision and administration of the contract, $209,398 for pre-dredge and progress surveys, $98,516 for overall project management, $82,410 for environmental review and management of water quality monitoring contract, $30,766 for development of monitoring plan, $290,869 for water quality monitoring, $1,026 for review of plans and specifications by the Safety Office, $78,457 for offshore disposal site surveys by the DAMOS program, $1,539 for contract management of DAMOS contract, $1,323 for internet connection for Providence Field office, $69,708 for preparation of plans and specifications, and $10,517 to monitor P&W railroad property adjacent to dredging area; $2,579 for the independent Technical Review of the plans and specifications; $45,000 to develop web site for maintenance activities; $489 to print copies of the Final Environmental Impact Statement; $242 for Stenographer costs at a Public Hearing; $6,985 for Contracting Division; $2,050 for travel associated with the work.

22. ROCKLAND HARBOR, ME

Location. Rockland Harbor is located on the westerly side and near the mouth of Penobscot Bay, about 80 miles northeast of Portland, Maine. (See National Ocean Service Coast Survey Chart 13307.)

Previous projects. Adopted by the River and Harbor Act of June 3, 1896. For details see Annual Report for 1906.

Existing project. Provides for a breakwater extending 4,346 feet southerly from Jameson Point, a short approach channel 18 feet deep and 200 feet wide, and three branch channels 14 feet deep and 100 to 150 feet wide with turning basins. The breakwater was completed in 1904. The channels and turning basins were completed in 1959. (See Table 1-B at end of chapter for Acts authorizing the existing project).

Local cooperation. Fully complied with for completed work.

Terminal facilities. About 15,000 feet of waterfront has been developed with over 20 wharves. Wharf construction varies from timber cribs filled with stones or earth, to granite faced fills with wooden-pile additions. The Rockland Port District has constructed a public pier and terminal at the entrance to Lermond Cove. Ships using this terminal include ferries and supply ships servicing the Penobscot Bay islands. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: A contract for maintenance dredging of the channels was awarded in September 2002. Work began in January 2003 and was completed in March 2003. A total of 33,107 cubic yards of material was removed by mechanical dredge and placed in open water at the Rockland Disposal Site. Contract costs were $831,255. A study to evaluate disposal impacts to

lobsters was conducted for $25,000 as a condition of State approvals. Hired labor costs included $62,815 for after-dredge surveys, $75,351 for contract supervision and administration, $2,010 for contract processing and $18,128 for project coordination and management.

23. SALEM HARBOR, MA

Location. Salem Harbor is located on the north shore of Massachusetts Bay, about 12 miles north of the entrance to Boston Harbor, Massachusetts. (See National Ocean Service Coast Survey Charts 13275 and 13276.)

Previous projects. For details see Annual Report of 1915.

Existing project. Provides for a channel 32 feet deep and generally 300 feet wide, widened to 400 feet at bends and at the inner end, extending about 1.5 miles from deep water in the outer harbor to a point about 1,500 feet from Salem Terminal wharf, where it joins locally dredged approach channel of same depth leading to wharf. Project also provides for a channel 10 feet deep in South River, 300 feet wide and gradually narrowing to 50 feet wide at the upstream end of Pickering Wharf, and for a branch channel on the east side of Derby Wharf, 8 feet deep, 100 feet wide, and about 700 feet long, which widens into a basin of the same depth, 500 feet long and 200 feet wide. Existing project was completed in November 1967. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Terminal facilities. The extensively developed waterfront of Salem Harbor and the South River is about 1 mile in extent and includes 9 wharves owned by private interests. The Salem Terminal is the largest of these and serves the New England Power Company's generating station. It is also the principal terminal for receipt and distribution of coal and petroleum products in Salem and tributary area. The Navy uses one of the two wharves owned by the National Park Service as a training center. Nine other wharves in the harbor are outside of the extensively developed area.

Operations during fiscal year. Maintenance: Work consisted of continued investigations in preparation for maintenance dredging of the Federal channels. Hired labor costs included $10,200 for surveys and drawings, $4,263 for project management, $374 for completion of an environmental assessment, $723 for contract administration and $20,827 for preparation of plans and specifications. Contract costs were $25,394 for a utility survey of the main channel. Work next FY will include solicitation of bids and award of a contract for maintenance dredging of the project.

24. SAUGUS RIVER, MA

Location. The mouth of the Saugus River is located along the western shore of Lynn Harbor in Broad Sound, about 5 miles northeast of Boston Harbor, Massachusetts. The river forms the boundary between the communities of Saugus and Lynn, Massachusetts. (See National Ocean Service Coast Survey Chart 13275.)

Existing project. Provides for an entrance channel 80 to 150 feet wide and 18,400 feet long from deep water in Broad Sound, through the Western Channel of Lynn Harbor and upstream in the Saugus River to the harbor area and commercial facilities. The first 17,700 feet of the channel is 8 feet deep and extends to the uppermost commercial shore facilities. The final 700 feet of the channel is 6 feet deep and provides access to the uppermost anchorage. The project also provides for 2 anchorage areas, both 6 feet deep and totaling 4.3 acres, to accommodate the commercial fleet. Construction of the project was completed in March 2001. (See Table 1-B for Act authorizing the project.)

Local cooperation. A Project Cooperation Agreement was signed on May 22, 2000 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, and perform all relocations determined by the Government to be necessary for project construction; provide 10 percent of total General Navigation Feature (GNF) costs during construction; reimburse an additional 10 percent of total GNF costs within a period not to exceed 30 years following completion of construction (partially offset by a credit allowed for the value of lands, easements, rights-of-way, and relocations); and deepen and maintain all berthing areas and local access channels commensurate with project features.

Terminal facilities. General Electric and a few marinas and yacht clubs line the eastern shore of the Saugus River. The western bank includes Refuse Energy Systems Company (RESCO), the Atlantic Lobstermen's Cooperative, a public landing and a few yacht clubs, marinas and boat yards. Most local fishermen moor their vessels opposite the town landing above the Fox Hill (Route 107) Bridge. Some fishermen, whose residences line the shore on both sides upstream of the town landing, berth their vessels at their own docks and floats during loading and off-loading operations conducted at higher tidal stages. There are about 20 such facilities along the river's edge. Facilities are considered adequate for present harbor activities.

Operations during fiscal year. New Work: Final project costs were distributed between the Federal and non-Federal accounts.

25. SCITUATE HARBOR, MA

Location. Scituate Harbor is located on the Atlantic coast about 14 miles southeast of the entrance to Boston Harbor and 33 miles northwest of the Massachusetts Bay entrance to the Cape Cod Canal. (See National Ocean Service Coast Survey Chart 13269.)

Previous projects. For details see the Annual Reports of 1931 and 1938.

Existing project. For description of the existing project and authorizing legislation see the Annual Report for 1995.

Local cooperation. Fully complied with for completed work.

Terminal facilities. There are three wharves, one formerly used for the receipt of coal and lumber, one owned by the town and used as a public landing, and one used as a yacht pier. None of these wharves have any railroad connections or elaborate freight-handling machinery, but each has good highway facilities. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Work included repairs to the north and south breakwaters as well as maintenance dredging of channels and anchorages. A contract for the repair of the north and south breakwaters was awarded September 21, 2002. Repair work began in March 2003 and was completed in August 2003. Contract costs were $1,396,051 for breakwater repairs. The contract for maintenance dredging was awarded on June 19, 2002. Work began in September 2002 and was completed in February 2003. A mechanical dredge was used to remove shoal material, which was disposed of in open water at the Massachusetts Bay Disposal Site. About 137,725 cubic yards of material were removed this FY for a total of 234,953 cubic yards under the contract. Contractor earnings for maintenance dredging this FY were $1,321,504, bringing the total contract cost to $2,392,762. Hired labor costs associated with maintenance dredging and breakwater repairs were $62,687 for after-dredge surveys, $123,952 for contract supervision and administration, $3,858 for contract processing, $23,739 for project coordination and management, and $55,801 to evaluate dredging impacts to eelgrass beds.

26. SEEKONK RIVER, PROVIDENCE, RI

Location. The India Point Railroad Bridge is located at the mouth of the Seekonk River in Providence, Rhode Island.

Existing project. Provides for the removal of the abandoned India Point Railroad Bridge at a currently estimated cost of $1,400,000. Removal of the bridge was completed in February 2002. (See Table 1-B for Acts authorizing the project.)

Local cooperation. A Project Cooperation Agreement was signed on December 21, 2000 between the Corps and the City of Providence, Rhode Island. The City must transfer title of the bridge to the United States and provide 50 percent of construction costs. Revenue derived from the sale of scrap from the bridge shall be credited toward the non-Federal share of project costs. A Memorandum of Agreement was signed on September 26, 2000 between the Corps and the Rhode Island State Historic Preservation Office, stipulating the Corps will market the India Point Railroad Bridge for reuse.

Operations during fiscal year. New work: The costs of lands, easements, and rights-of-way provided by the project sponsor for project construction were still under review at FY end.

27. SESUIT HARBOR, MA

Location. Sesuit Harbor is located on the north shore of Dennis in Barnstable County, about 85 miles southeast of Boston, Massachusetts. (See National Ocean Service Coast Survey Chart 13250.)

Existing project. Provides for a channel 6 feet deep and 100 feet wide from deep water in Cape Cod Bay to a point opposite the Dennis Yacht Club, thence reducing in width to 80 feet at the entrance to the inner harbor basin, for a total channel length of 2,400 feet. Project was completed in August 1982. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. Maintenance: Dredging of the entrance channel was performed by the Government-owned dredge CURRITUCK from June 21 to 28, 2003. About 13,495 cubic yards of sand were removed and placed east of the entrance channel in a near shore area off of Cold Storage Beach. Plant rental cost was $85,400. Hired labor costs were $18,100 for project condition surveys, $19,550 for performing and plotting pre- and after- dredge surveys, and $14,200 for project coordination and management.

28. UNION RIVER, ME

Location. Union River connects a series of lakes and ponds in east central Maine, flows about 50 miles in a southerly direction, and discharges into Union River Bay

just west of Mount Desert Island. (See National Ocean Service Coast Survey Chart 13312.)

Existing project. The existing project consists of a channel 6 feet deep by generally 100 to 125 feet wide, widened up to 150 feet at the mouth and in the bends, extending about 3.75 miles upriver from deep water in Union River Bay to a 5.4 acre turning basin of the same depth at the wharves at Ellsworth. (See Table 1-B for Acts authorizing the existing project.)

Local cooperation. None required.

Terminal facilities. Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Work under contract for maintenance dredging of two project areas to a depth of 5 feet, awarded in September 2002, began on November 1, 2002 and was completed on January 3, 2003. After-dredge surveys from work in FY 2002 found that the outer channel cleared by work under a previous contract had experienced a bank failure that had deposited considerable material into the channel. A large boulder shoal was also identified in the upper channel through the narrows. Environmental restrictions to protect the Atlantic salmon and other fish species limited work to the period of November 1 through April 15. Due to the discovery of ledge within the channel limits, channel widths were reduced through the upper channel reaches.

A total of 7,103 cubic yards of material and 195 tons of boulders were removed during the FY, including 5,471 cubic yards of material from the outer channel, and 1,632 cubic yards of material and 195 tons of boulders from the upper channel, between November 2002 and January 2003. Material in the outer channel consisted of sawdust and fine-grained material, while material in the upper channel consisted of mixed sand, gravel and boulders. All material was removed using an excavator, and disposed in open water in Union River Bay west of Tuppers Ledge.

Dredging of municipal mooring areas by the City of Ellsworth, adjacent to the Federal turning basin, began in January 2003, was suspended due to heavy ice in February, resumed in April and was completed in May 2003. Surveys conducted in July 2003 indicated displacement of municipal dredged materials into the Federal basin limits. Remedy of this situation is being pursued under the City's Federal permit.

Contract costs for maintenance dredging during the FY were $470,400. Hired labor costs incurred in association with maintenance dredging of the Federal project were $51,085 for performing and plotting pre-dredge and progress surveys, $2,841 for project coordination and management, $42,822 for supervision and inspection, and $275 for contract administration.

29. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645, as amended (preauthorization).

(See Table 1-I)

Mitigation of damages caused by Federal navigation projects pursuant to Section 111, Public Law 90-483 as amended (preauthorization).

(See Table 1-J)

Beach Erosion Control

30. POINT BEACH, MILFORD, CT

Location. The city of Milford is located in south-central Connecticut along the northern shore of Long Island Sound. Point Beach is a residential subdivision located in Milford about 75 miles northeast of New York City and 10 miles southwest of New Haven, Connecticut.

Existing project. The proposed project involves raising the first floor of 58 shorefront and backshore residential structures above the estimated 100-year flood elevation. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on January 14, 1997 between the Corps and the Connecticut Department of Environmental Protection. This agreement was amended on September 18, 2000 to reflect the increased Federal cost limitation. The project sponsor must pay 35 percent of all costs allocated to storm damage reduction, assume all costs above the Federal cost limitation of $3,000,000 and assume all costs for the maintenance and repair of the project after completion.

Operations during fiscal year. New work: A contract to elevate residential structures was awarded on March 29, 2001. Work began in May 2001 and was about 90 percent complete at FY end with total contractor earnings of $2,498,624.

31. INSPECTION OF COMPLETED BEACH EROSION CONTROL PROJECTS

No beach inspections were conducted in FY 2003.

32. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Beach erosion control activities pursuant to Section 103, Public Law 87-874, as amended (preauthorization).

(See Table 1-K)

Shoreline erosion control development and demonstration program activities pursuant to Section 227, Public Law104-303, (preauthorization).

Federal costs for FY were $77,053 for design of a shoreline erosion control demonstration project at the mouth of the Blackwater River in Seabrook, New Hampshire.

Flood Control

33. BLACKSTONE RIVER BASIN, MA AND RI

Works covered by this plan include a dam and reservoir on West River and local protection works at three cities on Blackstone River. Flood Control Act of 1944 authorized plan for a reservoir on West River and local protection works at Worcester, Massachusetts, and Woonsocket and Pawtucket, Rhode Island, substantially in accordance with House Document 624, 78th Congress, 2nd session. Flood Control Act of 1960 authorized a local flood protection project at lower Woonsocket, Rhode Island, substantially in accordance with Senate Document 87, 85th Congress, 2nd Session. Local protection nonstructural project authorized in 1982 for Belmont Park section of Warwick, Rhode Island, along the Pawtuxet River. Streambank protection projects on the Blackstone River in Millbury, Massachusetts, and on the Clear River in Burrillville, Rhode Island, were authorized in 1985. (See Table 1-N for projects comprising the authorized plan.)

33A. WEST HILL DAM, MA

Location. West Hill Dam is located on the West River in Massachusetts, about three miles above its confluence with Blackstone River and 2.5 miles northeast of Uxbridge, Massachusetts. (See Geological Survey maps Blackstone, MA and RI, Milford, MA, and Grafton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in June 1959 and completed in June 1961. Construction of recreational facilities was completed in June 1967. Major rehabilitation of the dam was completed in July 2003.

Local cooperation. Section 3, Flood Control Act of 1944 applies.

Operations during fiscal year. Major rehabilitation: A contract to rehabilitate West Hill Dam was awarded June 8, 2001. Work began in July 2001 and was completed in July 2003. Contractor earnings total $12,323,010 with final payment pending completion of minor punch list items.

Maintenance: Ordinary operation and maintenance activities were conducted.

34. CHARLES RIVER (NATURAL VALLEY STORAGE AREAS), MA

Location. The Charles River extends inland from Boston Harbor southwesterly toward the Massachusetts-Rhode Island border and is some 80 miles long with a watershed covering 307 square miles.

Existing project. For a description of the existing project and authorizing legislation, see the Annual Report for 1995. Land acquisition was completed in 1990.

Local cooperation. Local interests are required to prevent modifications or alteration of existing roadways, utilities, bridges, culverts, and any other improvements that might affect the drainage characteristics of the natural storage areas; adopt and enforce regulations to restrict development of flood plain lands; and operate and maintain the existing dams along the Charles River. Local assurances were provided by the Commonwealth of Massachusetts.

Operations during fiscal year. Maintenance: Hired labor costs for ordinary maintenance activities, project surveillance and inspection, and land use administration were $230,940.

35. CONNECTICUT RIVER BASIN, VT, NH, MA AND CT

Location. Works covered by this project are a series of dams and reservoirs located on tributaries of the Connecticut River in Vermont, New Hampshire and Massachusetts, within a radius of 230 miles from Hartford, Connecticut, and local protection works at several cities in the basin.

Existing project. Flood Control Act of 1936, as amended by Act of May 25, 1937, authorized construction of ten reservoirs on tributaries of Connecticut River in accordance with plans in House Document 412, 74th Congress, 2nd session, as the same may be revised upon further investigation of 1936 flood. Flood Control Act of 1938 approved a general comprehensive plan for control of floods and other purposes in Connecticut River Valley, as set forth in House Document 455, 75th Congress, 2nd

session, and authorized $11,524,000 for construction of local flood protection projects in the plan. Act of October 15, 1940, modified Act of June 18, 1938, to provide additional protection at East Hartford, CT, as set forth in House Document 653, 76th Congress, 3rd session. Act of August 18, 1941, modified comprehensive plan approved in 1938 to include improvements recommended in House Document 653, 76th Congress, 3rd session, and House Document 724, 76th Congress, 3rd session, with such further modifications as may be found justifiable in discretion of Secretary of the Army and Chief of Engineers. Latter Act also authorized to be appropriated additional $6 million for local protection works and $10 million for reservoirs. Act of October 26, 1942, further modified plan by including construction of Gully Brook conduit at Hartford, CT. Flood Control Act of 1944 authorized expenditure of $30 million in addition to previous authorization for comprehensive plan approved in 1938 and modified plan by directing specific consideration of an alternative plan of Vermont State Water Conservation Board instead of Williamsville Reservoir in West River Basin, VT; directing consultation with affected States during course of investigations and transmission of proposal and plans to each affected State for written views and recommendations for reservoir projects heretofore authorized for construction at Cambridgeport, Ludlow, South Tunbridge, and Gaysville, and resubmission of projects or modifications for construction of Sugar Hill site. Flood Control Act of 1950 modified project for flood control at Hartford, CT, authorized by Flood Control Act of 1938, as amended to include Folly Brook dike and conduit. Flood Control Act of 1954 modified plan for flood control in Connecticut River Basin to provide for construction of a reservoir on Otter Brook at South Keene, NH, in lieu of any reservoir or reservoirs heretofore authorized. This Act further modified plan for West River Basin of Connecticut River in Vermont to consist of three reservoirs at Ball Mountain, The Island, and Townshend sites, in lieu of plan of eight reservoirs authorized in Flood Control Act of 1944. Flood Control Act of 1958 modified plan for flood control in Connecticut River Basin to include construction of Littleville Reservoir on Middle Branch of Westfield River, MA, and Mad River Reservoir on Mad River, above Winsted, CT. Flood Control Act of 1960 included authorization in Connecticut River Basin of plan for flood protection on Chicopee River, MA, substantially in accordance with House Document 434, 86th Congress; plan for flood protection on Westfield River, MA, substantially in accordance with Senate Document 109, 86th Congress; plan for flood control and related purposes on Farmington River, Connecticut, substantially in accordance with House Document 443, 86th Congress. Flood Control Act of 1968 included authorization in Connecticut River Basin of plan for construction of Beaver Brook Reservoir, on Beaver Brook in Keene, NH, substantially in accordance with Senate Document 60, 90th Congress; and plan for protection on Park River, Connecticut, substantially in accordance with Senate Document 43, 90th Congress. Flood Control Act of 1970 deauthorized the construction of a reservoir at Claremont, NH. The Water Resources Development Act of 1976 deauthorized the construction of Gaysville Lake, VT project. Flood control projects at Cambridgeport Lake, Brockway Lake, Victory Lake, South Tunbridge Lake, Ludlow Lake and The Island Lake, Vermont; Honey Hill Lake, West Canaan Lake, and the Alternative to Sugar Hill Reservoir, NH, were deauthorized in August 1977 in accordance with Section 12 of the Water Resources Development Act of 1974. The authorization for Beaver Brook Lake, NH project expired in April 1978 due to lack of local cooperation. Local protection projects at Gardner, MA, West Springfield, MA, Hartford, VT, Wethersfield, CT, and Keene, NH authorized and constructed in accordance with Section 205 of 1948 Flood Control Act. Emergency streambank erosion control projects at Brownsville, VT; Conway, MA; Huntington, MA; Charlestown, NH; North Stratford, NH; Colchester, CT; Middletown, CT; Milford, CT; Simsbury, CT; and two projects in Leominster, MA authorized in accordance with Section 14 of the 1946 Flood Control Act were completed. (See Table 1-M at end of chapter for reservoirs and local protection works for Connecticut River Basin.) The Water Resources Development Act of 1986 modified the comprehensive plan for the control of flood-waters in the Connecticut River Basin, Vermont, New Hampshire, Massachusetts, and Connecticut, authorized by Section 5 of the Act of June 22, 1936 (49 Stat. 1572) by authorizing the design, construction, operation, and maintenance of facilities at Townshend Dam, West River, VT to enable upstream migrant adult Atlantic salmon to bypass that dam and Ball Mountain Dam, VT, and to provide at both Townshend and Ball Mountain Dams facilities as necessary for the downstream passage of juvenile Atlantic salmon. This work was completed in February 1993.

35A. BALL MOUNTAIN LAKE, VT

Location. The Dam is on West River, 29 miles above its junction with Connecticut River at Brattleboro, Vermont. It is two miles north of Jamaica, VT. (See Geological Survey map for Londonderry, VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1994. Construction of the dam and appurtenant works was initiated in May 1957 and completed in November 1961. Cost of work was $10,448,000 for construction and $350,000 for lands and damages, a total of $10,798,000. Construction of recreation facilities was initiated in June 1975 and completed in June 1977. Fish passage facility work began in June 1992 and was completed in February 1993. The project is a unit of comprehensive plan for flood control and other purposes in Connecticut River Basin.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to build an accessible hiking trail was awarded on May 2, 2003. Work began in July 2003 and was about 80 percent complete at FY end with contractor earnings of $144,478.

35B. BARRE FALLS DAM, MA

Location. The Dam is on Ware River in the Town of Barre, Massachusetts, 31.9 miles above confluence of Ware and Swift Rivers. It is 13 miles northwest of Worcester, MA. (See Geological Survey maps for Barre, MA and Wachusett Mountain, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1956 and completed in May 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35C. BIRCH HILL DAM, MA

Location. Dam is on Millers River, 27.3 miles above its junction with the Connecticut River. It is 1.3 miles east of South Royalston, Massachusetts and 7.5 miles northwest of Gardner, MA. (See Geological Survey maps for Royalston and Winchendon, MA-NH and Templeton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in June 1940 and completed in February 1942.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests have contributed $32,000 as their required 50 percent cost sharing of recreational development in accordance with 1965 Federal Water Project Recreation Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities.

35D. COLEBROOK RIVER LAKE, CT

Location. Colebrook River Dam is located in the Town of Colebrook, Litchfield County, Connecticut, on the West Branch of the Farmington River about 3.9 miles upstream from its confluence with the Still River at Riverton, Connecticut, and about 1.5 miles upstream from Goodwin (Hogback) Dam. (See Geological Survey map for Winsted, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1965 and completed in June 1969. Construction of recreation facilities was initiated in August 1969 and completed in June 1970.

Local cooperation. A water supply contract was signed by the Hartford Connecticut Metropolitan Water District. Repayment is being made in accordance with provisions of the 1958 Water Supply Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to repair the Old Route 8 and Service Bridges was awarded on September 11, 2003. Work had not begun by FY end.

35E. CONANT BROOK DAM, MA

Location. Site is in south central part of Massachusetts in Town of Monson. Damsite, across Conant Brook, is about two miles southeast of the community of Monson, MA. (See Geological Survey map for Monson, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam, highway relocations, and appurtenant works was initiated in June 1964 and completed in December 1966.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35F. KNIGHTVILLE DAM, MA

Location. Dam is on Westfield River, 27.5 miles above its confluence with Connecticut River. It is four miles north of the Town of Huntington, Massachusetts, and about 12 miles west of the City of Northampton, MA. (See Geological Survey map for Westhampton, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in August 1939 and completed in December 1941.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35G. LITTLEVILLE LAKE, MA

Location. Dam is on Middle Branch of Westfield River, one mile above its confluence with main stem of Westfield River and 25.2 miles above confluence of Westfield River with Connecticut River, in the Town of Chester, Massachusetts. (See Geological Survey map for Chester, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated under a multi-component contract in June 1962 and completed in September 1965.

Local cooperation. Section 2, Flood Control Act of June 28, 1938, and Title III, Water Supply Act of 1958 apply and were fully complied with.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35H. NORTH HARTLAND LAKE, VT

Location. Dam is on Ottauquechee River, 1.5 miles above its junction with Connecticut River, and one-mile northwest of North Hartland, Vermont. Reservoir extends upstream 5.5 miles. (See Geological Survey map for Hanover NH-VT.)

Existing project. For a description of completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in June 1958 and completed in June 1961.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35I. NORTH SPRINGFIELD LAKE, VT

Location. North Springfield Dam is located in the Town of Springfield, Vermont, on the Black River, about 8.7 miles above its junction with the Connecticut River, and about three miles northwest of Springfield, Vermont. (See Geological Survey maps for Ludlow, Vermont, and Claremont, New Hampshire.)

Existing project. For a description of completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in May 1958 and completed in November 1960.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35J. OTTER BROOK LAKE, NH

Location. Otter Brook Dam is located on Otter Brook, about 2.4 miles upstream from its junction with the Branch, which flows about 2.5 miles to the Ashuelot River at Keene, New Hampshire. (See National Ocean Survey maps for Keene, NH-VT, and Monadnock, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in September 1956 and completed in August 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35K. SURRY MOUNTAIN LAKE, NH

Location. Dam is on Ashuelot River, 34.6 miles above its junction with Connecticut River and five miles north of Keene, New Hampshire. (See Geological Survey maps for Keene and Bellows Falls, NH-VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in August 1939 and completed in June 1942. Additional recreational facilities were completed in September 1969 and 1980.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to paint the spillway bridge was awarded September 10, 2002. Work began the following month and was completed on November 1, 2002. Final contract amount was $149,694.

35L. TOWNSHEND LAKE, VT

Location. Townshend Lake Dam is located on the West River, about 19.1 miles above its junction with the Connecticut River at Brattleboro, Vermont, and about two miles west of Townshend, Vermont. The reservoir extends upstream about four miles. (See Geological Survey maps for Saxtons River, VT, and Londonderry, VT.)

Existing project. For a description of completed improvements and authorizing legislation see the Annual Report for 1994. Townshend Lake Reservoir is operated as a unit of a coordinated system for flood control in Connecticut River Basin. Construction of the dam and appurtenant works was initiated in November 1958 and completed in June 1961. Additional recreational facilities were completed in October 1969 and September 1971. Fish passage facility work began in June 1992 and was completed in February 1993.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35M. TULLY LAKE, MA

Location. Tully Lake Dam is located on the East Branch of Tully River, about 3.9 miles above its junction with the Millers River. The dam lies about one mile north of Fryville, Massachusetts, and 3.5 miles north of Athol, MA. (See Geological Survey map for Royalston, MA-NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in March 1947 and completed in September 1949.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests must also bear 50 percent of future recreational development, in accordance with 1965 Federal Water Project Recreational Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

35N. UNION VILLAGE DAM, VT

Location. Union Village Dam is located on the Ompompanoosuc River, about four miles above its junction with the Connecticut River. The dam lies about one-fourth mile north of Union Village, Vermont, and 11 miles north of White River Junction, Vermont. (See Geological Survey maps for Strafford, VT and Mount Cube, NH-VT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam was initiated in March 1947 and completed in June 1950.

Local Cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

36. FAULKNER ISLAND, CT

Location. Faulkner Island is located in Long Island Sound about 3 miles south of Guilford, Connecticut. Faulkner Lighthouse is located about 35 feet from the cliff edge along the eastern side of the island.

Existing project. Provides for the construction of shoreline protection measures along the east side of the island adjacent to Faulkner Lighthouse. Construction of Phase I shoreline protection was initiated in September 2000 and completed in April 2001. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Memorandum of Understanding (MOU) was signed September 14, 1998, between the Corps and the U.S. Fish and Wildlife Service. The island is owned and operated by the U.S. Fish and Wildlife Service as a National Wildlife Refuge. In accordance with the MOU, the U.S. Fish and Wildlife Service must agree to maintain the project after completion.

Operations during fiscal year. New work: U.S. Fish and Wildlife Services continued to monitor the effectiveness of Phase I work and will continue to assess its impacts on tern nesting over the next few years. Findings will help determine if additional shoreline protection is needed and the best way to accomplish this work. FY 2003 work included coordination with U.S. Fish and Wildlife Services.

37. FOX POINT BARRIER, RI

Location. The Fox Point Barrier is located on the Providence River at Fox Point, in the City of Providence, Rhode Island.

Existing project. For description of completed project see the Annual Report for 1974. Construction of the barrier was completed in January 1966. The Water Resources Development Act of 1999 directs the Secretary to undertake necessary repairs to the barrier as identified in the Condition Survey and Technical Assessment dated April 1998, with Supplemental dated August 1998. Necessary repairs include overhauling pumps, replacing tainter gate roller chains, cleaning and painting tainter gates and repairing lower guide bearing diffuser cracks. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work. A Project Cooperation Agreement was signed on April 8, 2002 between the Corps and the City of Providence. The City must provide 35 percent of total repair costs and assume all costs in excess of Federal appropriations, which total $1,950,000 to date.

Operations during fiscal year. Major rehabilitation: The Assistant Secretary of the Army for Civil Works approved the Decision Document on October 23, 2001. The City of Providence initiated repair work in January 1998 and was about 80 percent complete at FY end. Reimbursements by the Corps to the City of Providence for eligible repair work total $1,249,369, including $254,641 this FY.

38. HOUSATONIC RIVER BASIN, CT AND MA

Seven flood control reservoirs on tributaries of the Naugatuck River, principal tributary of the Housatonic River, and three local protection projects have been specifically authorized as part of an overall plan for flood control in the Housatonic River Basin. The Naugatuck and Housatonic Rivers converge 12 miles above mouth of Housatonic River. A project for emergency snagging and clearing of the Blackberry River, a tributary of the Housatonic River, was authorized under authority contained in Section 208 of the 1954 Flood Control Act. Emergency streambank protection projects at: Alford, Green River, MA; Hoosic River, Williamstown, MA; Sheffield, MA; Salisbury, CT; and Squantz Pond, Fairfield, CT were authorized under authority provided by Section 14 of the 1946 Flood Control Act. Projects for local flood protection for: West Branch, Torrington, CT; East Branch, Torrington, CT; Mad River, Waterbury (Woodtick Area), CT; Pittsfield, MA; and Waterbury-Watertown, CT, were authorized under authority provided by Section 205 of the 1948 Flood Control Act. (See Table 1-P at end of chapter on dams, reservoirs, and local protection projects for Housatonic River Basin.)

38A. BLACK ROCK LAKE, CT

Location. Damsite is on Branch Brook, about two miles upstream from its confluence with Naugatuck River, in the Towns of Thomaston and Watertown, Connecticut. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Road relocation was completed in November 1967. Construction of the dam and appurtenant works was initiated in July 1967 and completed in July 1971.

Local cooperation. Section 2, Flood Control Act of 1938 applies. State legislation requires local interests to establish encroachment lines downstream of dam to permit efficient reservoir operation.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract to repair and paint the service bridges at Black Rock and Hop Brook Lakes was awarded on April 5, 2002. Work began in May 2002 and was completed in October 2002. Final contract amount was $407,480, of which $212,815 was for work at Black Rock Lake.

38B. HANCOCK BROOK LAKE, CT

Location. Dam is on Hancock Brook, in the Town of Plymouth, Connecticut, about 3.4 miles above its confluence with Naugatuck River. (See Geological Survey map for Waterbury, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in July 1963 and completed in August 1966.

Local cooperation. Section 2, Flood Control Act of 1938 applies. State legislation requires local interests to establish encroachment lines downstream of dam to permit efficient reservoir operation.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38C. HOOSIC RIVER, SYNDICATE ROAD, WILLIAMSTOWN, MA

Location. The Town of Williamstown is located in the northwest corner of Massachusetts, approximately 20 miles north of Pittsfield, Massachusetts. The erosion site is located along the Hoosic River off Syndicate Road.

Existing project. Provides for the construction of approximately 300 linear feet of stone slope protection along the western bank of the Hoosic River adjacent to Syndicate Road. The project will protect two main sewer interceptor lines from erosion damage. Project was completed in August 2002. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed August 30, 2001 between the Corps and the Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction. The project sponsor must also pay a minimum cash contribution of 5 percent of total project costs during construction; pay an additional cash contribution during construction so that the total contribution including lands equals 35 percent of total project costs; assume all costs in excess of the Federal statutory cost limitation of $1,000,000; and bear all costs for maintenance and repair of the project after completion.

Operations during fiscal year. New work: Sponsor provided documentation of real estate administrative costs associated with project construction. There costs were under review at FY end.

38D. HOP BROOK LAKE, CT

Location. Damsite is on Hop Brook, in city of Waterbury and towns of Middlebury and Naugatuck, Connecticut, about 1.4 miles upstream of confluence of Naugatuck River and Hop Brook. (See Geological Survey map for Waterbury, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant structures was initiated in December 1965 and completed in December 1968. Construction of a public use facility was completed in November 1973. Construction of an additional restroom was completed in 1980.

Local cooperation. Section 2, Flood Control Act of 1938 applies. State legislation requires local interests to establish encroachment lines downstream of dam to permit efficient reservoir operation.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38E. NORTHFIELD BROOK LAKE, CT

Location. Dam is on Northfield Brook, about 1.3 miles upstream from its confluence with Naugatuck River, in town of Thomaston, Connecticut. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of dam and appurtenances was initiated in May 1963 and completed in October 1965. Construction of recreation facilities was initiated in November 1966 and completed in August 1967.

Local cooperation. Section 2, Flood Control Act of 1938 applies. State legislation requires local interests to establish encroachment lines downstream of dam to permit efficient reservoir operation.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

38F. THOMASTON DAM, CT

Location. On Naugatuck River, about 30.4 miles above its junction with Housatonic River, and about 1.6 miles north of Thomaston, Connecticut. Reservoir extends upstream about 6.4 miles. (See Geological Survey map for Thomaston, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1958 and completed in November 1960.

Local cooperation. Section 3, Flood Control Act of 1944 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

39. MERRIMACK RIVER BASIN, NH AND MA

Works covered by comprehensive plan are on Merrimack River and its tributaries in New Hampshire and Massachusetts. Flood Control Act of 1936 authorized construction of a system of flood control reservoirs in Merrimack River Basin for reduction of flood heights in Merrimack Valley. Flood Control Act of 1938 approved general comprehensive plan for flood control and other purposes as approved by Chief of Engineers pursuant to preliminary examinations and surveys authorized by Act of June 22, 1936, and modified project to provide in addition to construction of a system of flood control reservoirs, related

flood control works which may be found justified by the Chief of Engineers. All operations pertaining to flood control in Merrimack River Basin are now carried on under and reported under projects for individual units of comprehensive plan referred to above. No further expenditures are contemplated under general project for flood control in Merrimack River Basin. For final cost and financial summary, see The Annual Report for 1946.

A comprehensive plan for development of water resources of the North Nashua River Basin, a principal tributary of the Merrimack River, was authorized by 1966 Flood Control Act substantially in accordance with Senate Document 113, 89th Congress. Plan provides for construction of coordinated system of four reservoirs and three local protection projects for flood protection, water supply, recreation and allied purposes. Water Resources Development Act of 1986 deauthorized two of the reservoirs and one of the local protection projects.

The 1966 Flood Control Act also authorized construction of Saxonville local protection project substantially in accordance with Senate Document 61, 89th Congress. Emergency streambank protection projects at Amesbury, Massachusetts, two in Leominster, MA and two in Lancaster, MA were authorized under authority provided by Section 14 of the 1946 Flood Control Act. (See Table 1-Q at end of chapter for reservoirs and related flood control works for Merrimack River Basin.)

39A. BLACKWATER DAM, NH

Location. Dam is on Blackwater River, 8.2 miles above confluence with Contoocook River, and 118.8 miles above mouth of Merrimack River. It is in the town of Webster, New Hampshire, just above village of Swetts Mills, NH, 18 miles by highway northwest of Concord, NH. (See Geological Survey maps for Penacook and Mount Kearsarge, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Project is complete except for construction of public facilities. Construction of the dam and appurtenant works was initiated in May 1940 and completed in November 1941.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A contract for concrete repairs was awarded on September 17, 2002. Work began in October 2002 and was completed in September 2003. Contractor earnings total $573,415 with final contract payment still pending at FY end.

39B. EDWARD MACDOWELL LAKE, NH

Location. Edward MacDowell Dam is located on Nubanusit Brook, a tributary of the Contoocook River, about one-half mile upstream from the village of West Peterborough, New Hampshire, and about 14 miles east of Keene, New Hampshire. (See Geological Survey map for Peterboro and Monadnock, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in March 1948 and completed in March 1950.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

39C. FRANKLIN FALLS DAM, NH

Location. Franklin Falls Dam is located on the Pemigewasset River, a main tributary of the Merrimack River, about 2.5 miles upstream of Franklin, New Hampshire. (See Geological Survey maps for Penacook and Holderness, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in November 1939 and completed in October 1943.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

39D. HOPKINTON-EVERETT LAKES, NH

Location. Hopkinton Dam is on Contoocook River, 17.3 miles above its junction with Merrimack River and about one-half mile upstream from village of West Hopkinton, New Hampshire. Everett Dam is on Piscataquog River, 16 miles above its junction with Merrimack River, and about 1.3 miles southeast of village of East Weare, NH. Two interconnecting canals were provided to enable the two reservoir areas to function as one. (See Geological Survey map for Hillsboro, NH, and Concord, NH.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of two dams and appurtenant

works was initiated in November 1959 and completed in December 1962. Construction of recreation facilities was initiated in November 1974 and completed in September 1975.

Local cooperation. Section 2, Flood Control Act of 1938 applies. Local interests must also bear 50 percent of future recreational development in accordance with 1965 Federal Water Project Recreation Act.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted. A purchase order to replace the control tower roofs at Hopkinton and Everett Dams was awarded on September 5, 2002. Work began the last week of September 2002 and was completed in November 2002. Final contract amount was $66,085.

39E. NORTH NASHUA RIVER, LANCASTER, MA

Location. The Town of Lancaster is located in Worcester County in north central Massachusetts, approximately 40 miles west of Boston, Massachusetts and 18 miles north of Worcester, Massachusetts. The erosion site is located along the North Nashua River adjacent to State Highway Route 70.

Existing project. Provides for the construction of approximately 500 linear feet of stone slope protection along the stream bank of the North Nashua River adjacent to State Highway Route 70. Project was completed in August 2000. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work.

Operations during fiscal year. New work: Received additional sponsor funds and financially closed out project.

40. NEW BEDFORD, FAIRHAVEN AND ACUSHNET, MA

Location. Main harbor barrier is across New Bedford and Fairhaven Harbor in vicinity of Palmer Island. Supplemental dikes and walls are provided in Clark Cove area of New Bedford and Fairhaven. (See Geological survey maps for New Bedford North, New Bedford South, Marion, and Sconticut Neck, MA and National Ocean Service Coast Survey Charts 13230, 13070 and 13218.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the barrier and appurtenances was initiated in October 1962 and completed in January 1966. Construction of the pumping station was initiated in October 1962 and completed in June 1964.

Local cooperation. Fully complied with.

Operations during fiscal year. Maintenance: The cost of operation and maintenance work at the New Bedford Hurricane Barrier totaled $1,029,087. Hired labor costs of $186,000 were incurred for operation, maintenance, tidal watches and Reservoir Control Center support. Costs incurred for maintenance work were $35,146. A contract to rehabilitate the sector gates and replace timber fenders was awarded on April 8, 2003. Work began on May 20, 2003 and was about 65 percent complete by FY end with contractor earnings of $690,000. Cost associated with the contract included $41,510 for engineering and design, $72,831 for supervision and inspection, and $3,000 for contract administration.

41. PLEASANT POINT, PERRY, ME

Location. The Town of Perry is located in Washington County along the coast of northeastern Maine about 126 miles east of Bangor, Maine and 20 miles south of Calais, Maine.

Existing project. Provides for the construction of approximately 800 linear feet of stone slope protection along an eroding section of shoreline on Pleasant Point. Project was completed in June 1987. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. Fully complied with for completed work. For a description of items of local cooperation see the Annual Report for 1987.

Operations during fiscal year. New work: Inspection of the project revealed that some of the stone slope protection has been displaced. The rate of displacement is greater than expected because much of the stone used in construction of the project was not in accordance with specifications in terms of weight and configuration. Efforts were initiated to estimate the cost to repair and project and determine the extent of Corps participation based on possible construction deficiency.

42. QUONSET POINT, DAVISVILLE, RI

Location. Quonset Point is located in east central Rhode Island along the west shore of Narragansett Bay in the village of Davisville and Town of North Kingstown, about 15 miles south of Providence, Rhode Island.

Existing project. Provides for the construction of two elevated water storage towers and relocation of 6,000 feet of sewer line. Construction of the water towers was completed in September 1998 and work on the sewer line was

completed in July 1998. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. For description of local cooperation, see Annual Report for 2001.

Operations during fiscal year. New work: Awaiting additional sponsor funds to financially close out project.

43. ROUGHANS POINT, REVERE, MA

Location. The city of Revere is a coastal community located in Suffolk County about five miles northeast of Boston, Massachusetts. Roughans Point is a low-lying, ocean front neighborhood of Revere. The area has 55 acres and about 300 structures, mostly residential homes.

Existing project. Project consists of 3,125 feet of stone revetment to dissipate incoming waves, prevent overtopping and stabilize existing facilities along the shoreline. The revetment extends from a point about 250 feet south of Eliot Circle southerly to a point 200 feet south of the intersection of Winthrop Parkway and Leverett Avenue. The project also provides for "backwater" protection by raising the ground elevation one-foot at the intersection of Bennington Street and State Road and installing a sluice gate on the 42-inch drain from the Roughans area to Sales Creek. Interior drainage improvements consist of a new intake structure at the existing pump station and a new gravity drain with a sluice gate. Project was completed in November 2001. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed April 25, 1997 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide without cost to the United States all lands, easements, rights-of-way, and relocations necessary for construction of the structural elements of the project, including ponding areas, borrow areas, and disposal areas for excavated material; hold and save the United States free from damages due to construction, operation, and maintenance of the project, not including damages due to the fault or negligence of the United States or its contractors; bear all costs of operation, maintenance and replacements; pay an amount in cash to bring the total non-Federal share to 35 percent of project costs allocated to storm damage reduction.

Operations during fiscal year. New work: A contract to construct the stone revetment project was awarded September 17, 1997. Work began in December 1997 and was completed in September 2000. Final contract amount was $7,897,464. A contract to upgrade the existing pump station was awarded June 15, 2000. Work began in July 2000 and was completed in November 2001. Final contract amount was $548,020.

44. SAINT JOHN RIVER BASIN, ME

Location. The project is located in Aroostook County in northern Maine, and lies within the Saint John River Basin.

Existing project. The project involves a research and demonstration program of cropland irrigation and soil conservation techniques for increasing potato yield and quality. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Local Cooperation Agreement (LCA) for a two-year research and demonstration program was signed on April 22, 1991 between the Corps and the Maine Aroostook Water and Soil Management Board. The project sponsor must obtain all interests in real estate as determined by the Government and the project sponsor to be necessary for project implementation. The Government will reimburse the project sponsor 65 percent of project costs as work is accomplished, up to the Federal cost limit of $300,000. The LCA was amended on June 6, 1994 to include a third year of research and demonstration at an estimated Federal cost of $252,000.

Operations during fiscal year. New work: Efforts have been deferred for the last few years as the Aroostook Water and Soil Management Board has not requested any further research at the University of Maine's farm in Presque Isle, Maine.

45. STAMFORD, CT

Location. The Stamford Hurricane Barrier is located in Fairfield County on the north shore of Long Island Sound, about 30 miles east of New York City and 20 miles southwest of Bridgeport, Connecticut. (See Geological Survey map for Stamford, CT.)

Existing project. For a description of the completed improvements and authorizing legislation, see the Annual Report for 1974. Project was completed in 1969. Local interests still owe a substantial amount based on claims settlements, including interest payment under the Contract Disputes Act.

Local cooperation. Fully complied with except for $662,000 outstanding which is local share of final claims settlement including interest payment.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46. THAMES RIVER BASIN, CT, RI, AND MA

Works covered by this plan are a series of dams and reservoirs on tributaries of Thames River in Massachusetts and Connecticut, within a radius of 45 miles from Norwich, CT, and a channel enlargement on Shetucket River where it discharges into Thames River at Norwich. Flood Control Act of August 18, 1941, approved plan for a system of reservoirs and channel improvements in Thames River Basin in accordance with House Document 885, 76th Congress, 3rd session, and authorized $6 million for initiation and partial accomplishment of project. Flood Control Act of December 22, 1944, authorized completion of approved plan. Flood Control Act of July 14, 1960, authorized project for West Thompson Reservoir, substantially as recommended in Senate Document 41, 86th Congress, 2nd session. Local flood protection project for West River, New Haven, CT was authorized under authority provided by Section 205 of the 1948 Flood Control Act. (See Table 1-P on reservoirs and local protection projects, Thames River Basin, for projects comprising approved plan.)

46A. BUFFUMVILLE LAKE, MA

Location. Dam is on Little River, 1.3 miles above its junction with French River, and eight miles northeast of Southbridge, MA. Reservoir extends upstream about 1.7 miles northerly and 1.9 miles southerly. (See Geological Survey maps for Webster, MA and CT, and Leicester, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in September 1956 and completed in June 1958.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46B. EAST BRIMFIELD LAKE, MA

Location. Dam is on Quinebaug River, 64.5 miles above its confluence with Shetucket River, and one-mile southwest of the village of Fiskdale, Massachusetts. (See Geological Survey maps for Whales, MA and CT, Southbridge, MA and CT, East Brookfield, MA, and Warren, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see Annual Report for 1975. Construction of the dam and appurtenant works was initiated in May 1958 and completed in June 1960.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46C. HODGES VILLAGE DAM, MA

Location. Dam is on French River, 15 miles above its confluence with Quinebaug River, at Hodges Village in the Town of Oxford, Massachusetts, about five miles north of Webster, MA. (See Geological Survey maps for Webster, MA, and CT, Leicester, MA, Worcester South, MA, and Oxford, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works, initiated in March 1958, was completed in December 1959. Major rehabilitation of the dam was initiated in October 1997 and completed in July 2000.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46D. MANSFIELD HOLLOW LAKE, CT

Location. Dam is at Mansfield Hollow, Connecticut, on Natchaug River, 5.3 miles above its confluence with Willimantic River. It is four miles northeast of the City of Willimantic, CT. (See Geological Survey maps for Spring Hill and Willimantic, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of dam, initiated in 1949, was completed in May 1952.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46E. WEST THOMPSON LAKE, CT

Location. Dam is on Quinebaug River, in the Town of Thompson, Connecticut. Site is in the village of West Thompson, two miles upstream from the City of Putnam, CT. (See Geological Survey map, for Putnam, CT.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual

Report for 1975. Construction of dam, road relocation, and appurtenances was initiated in August 1963 and completed in October 1965. Initial phase of recreation facilities was completed in May 1976.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

46F. WESTVILLE LAKE, MA

Location. Dam is on Quinebaug River, 56.7 miles above its confluence with Shetucket River, in the Towns of Sturbridge and Southbridge, Massachusetts, and 1.3 miles west of center of Southbridge. (See Geological Survey maps for Southbridge, MA and RI, and East Brookfield, MA.)

Existing project. For a description of the completed improvements and authorizing legislation see the Annual Report for 1975. Construction of the dam and appurtenant works was initiated in April 1960 and completed in August 1962.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations during fiscal year. Maintenance: Ordinary operation and maintenance activities were conducted.

47. TOWN BROOK, QUINCY AND BRAINTREE, MA

Location. The project is located in the City of Quincy and the Town of Braintree on the south side of Massachusetts Bay, along the eastern shore of Massachusetts, seven miles south of Boston in Norfolk County. The watershed is approximately 4.5 square miles.

Existing project. Project provides for the construction of a 12-foot diameter, 4,060-foot long, concrete lined tunnel in bedrock approximately 140 to 180 feet below ground, intake and outlet structures, and improvements to the Town River downstream of the outlet shaft. The tunnel and its appurtenances will be supplemented by reconstruction of the Old Quincy Reservoir Dam, located at the headwaters of Town Brook. Reconstruction work includes a new spillway and outlet structure. The project includes $6,100,000 in approved credit for compatible work that has been accomplished by the project sponsor. Dam safety measures at Old Quincy Dam, which are estimated at $9,000,000, are a non-Federal responsibility. Construction of the project was completed under three separate contracts. Town River improvements were completed in December 1994, the tunnel was completed in January 1997, and reconstruction of Old Quincy Reservoir Dam was completed in December 2002. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Local Cooperation Agreement (LCA) was signed on July 7, 1992 between the Corps and the Metropolitan District Commission (MDC). The MDC is required to provide all lands, easements, and rights-of-way; pay all cost for dam safety measures at Old Quincy Dam to insure its structural integrity; pay a cash contribution for the costs allocated to flood control so that the total contribution of local interests is equal to 25 percent of costs allocated to flood control; and bear all costs of operation, maintenance, and replacements. In addition, local interests must do the following: prescribe and enforce regulations to prevent encroachment on both the improvements and unimproved channels, and manage all project-related channels to preserve capacities for local drainage as well as for project functions.

Operations during fiscal year. New work: A contract for reconstruction of Old Quincy Dam was awarded September 25, 1998. Work began in February 1999 and was completed in December 2002. Contractor earnings total $9,961,560 with final payment pending completion of minor punch list items.

48. VERMONT DAMS REMEDIATION, VT

Location. The ten dams to be evaluated are located throughout the State of Vermont.

Existing project. Authorizes the Corps to evaluate the structural integrity of ten dams in the State of Vermont and to carry out measures to modify, repair, restore or remove dams determined to pose an imminent and substantial risk to public safety. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Design Agreement was signed on November 4, 2002 between the Corps and the State of Vermont Department of Environmental Conservation, Agency of Natural Resources. The non-Federal sponsor must contribute 35 percent of the cost for design of dam remediation work.

Operations during fiscal year. New work: A delivery order was issued under New York District's existing Indefinite Delivery Indefinite Quantities (IDIQ) contract on August 6, 2003 to evaluate the structural integrity of Lake Sadawga and Dufresne Pond Dams.

49. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

In accordance with provisions of the Flood Control Act of 1936, as amended, local flood protection works constructed with Federal funds are transferred to local interests to operate and maintain. To insure compliance with regulations prescribed for their operation and maintenance, regular inspections of the following projects were made during the FY at a total cost of $156,251:

CONNECTICUT: October 02 – New London, Pawcatuck; May 03 – East Hartford; August 03 – Stamford, September 03 – Ansonia, Derby.

MAINE: October 02 – Ogunquit (Marginal Way), Standish (Sebago Lake).

MASSACHUSETTS: October 02 – Riverdale, Saxonville; November 02 – New Bedford-Fairhaven, Northhampton, Springfield; December 02 – Charles River Dam; May 03 – Charles River Dam, Chicopee, Chicopee Falls, Fitchburg, Gardner, Huntington, New Bedford-Fairhaven, Three Rivers, West Springfield; July 03 – Leominster, Leominster (sewer line), Ware; September 02 – Holyoke.

NEW HAMPSHIRE: October 02 – Keene (Ashuelot River), Keene (Beaver Brook); November 02 – North Stratford, West Stuartstown.

RHODE ISLAND: May 03 – Lower Woonsocket, Providence.

VERMONT: No inspections in FY 2003.

50. FLOOD CONTROL RESERVOIR OPERATIONS

A coordinated system of flood control dams, all of which have flood control as primary storage available with recreation and/or water supply as secondary storage in most of the projects, has been established in five major flood producing basins in New England. During periods of flood flows, regulation of reservoirs is fully coordinated within each basin dependent upon its location in the watershed, its available storage capacity and origin of the flood. In addition to flood control releases; water supply, flow augmentation and hydropower releases were made from selected reservoirs. Winter pools are maintained at many projects to submerge the flood control gates and keep them from freezing.

During FY 2003 only one significant event occurred, between March 28-31, 2003, requiring reservoir regulation activities within the Connecticut and Merrimack River Basins. Cumulative damages prevented due to Corps dams and local flood protection projects was approximately $41 million, of which about $12 million was attributed to Corps dams and $29 million to local flood protection projects.

CONNECTICUT RIVER BASIN

Regulation for canoe and kayak activities occurred during FY 2003 at Otter Brook in March and April; Birch Hill, Tully, Littleville and Knightville in April; Ball Mountain and Townshend in April and September; and at Surry Mountain in May. The Hartford MDC controlled releases for hydropower from Colebrook Lake during non-flood periods of FY 2003.

MERRIMACK RIVER BASIN

Blackwater Dam was regulated for canoe races in April 2003.

THAMES RIVER BASIN

Regulation for canoe and kayak activities occurred during FY 2003 at East Brimfield in April and at Mansfield Hollow Lake in June. East Brimfield also supplied small releases for low flow augmentation to American Optical Co. during the summer months.

51. HURRICANE BARRIER OPERATIONS

Five hurricane barriers are situated along the southern coast of New England, protecting coastal communities from tidal flooding associated with hurricanes and severe coastal storms. The Corps operates the navigational elements of the Stamford, Connecticut and the New Bedford/Fairhaven, Massachusetts barriers. The hurricane barriers at Fox Point, Rhode Island; Pawcatuck, Connecticut; and New London, Connecticut are operated by the local communities. A brief resume of operations for the FY follows:

STAMFORD BARRIER. The barrier gates were operated on 11 occasions for coastal storms during FY 2003. Total damages prevented were $450,000.

NEW BEDFORD BARRIER. During FY 2003, the New Bedford Barrier was operated on 12 different occasions resulting in a total of $348,000 in damages prevented.

FOX POINT HURRICANE BARRIER. The Fox Point Hurricane Barrier was not operated during FY 2003, as tides did not reach damaging levels.

PAWCATUCK HURRICANE BARRIER. No operations occurred at the Pawcatuck Hurricane Barrier during FY 2003, as tides did not reach damaging levels.

NEW LONDON HURRICANE BARRIER. The New London Hurricane Barrier was not operated during FY 2003, as tides did not reach damaging levels

52. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Section 205. Public Law 80-858, as amended (preauthorization).

(See Table 1-L)

Snagging and clearing activities pursuant to Section 208 of the 1954 Flood Control Act.

(None)

Emergency Bank Protection activities pursuant to Section 14 of the 1946 Flood Control Act (preauthorization).

(See Table 1-M)

Emergency flood control activities--repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation.)

Federal costs for FY were $265,815 for disaster preparedness and $42,791 for emergency operations.

Environmental

53. LEBANON, NH

Location. The City of Lebanon is located in west central New Hampshire along the Connecticut River and state border with Vermont.

Existing project. Environmental infrastructure project, consisting of twelve functional portions, to eliminate combined sanitary waste and storm water systems. Phase I was completed in November 2002. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on June 24, 2002 between the Corps and the City of Lebanon, New Hampshire. The sponsor must provide 35 percent of total project costs.

Operations during fiscal year. New work: The Corps awarded a contract for construction of the second functional portion of the project on July 29, 2002. Work began in September 2002 and was about 50 percent complete at FY end with contractor earnings of $1,739,056.

54. LONSDALE DRIVE-IN, LINCOLN, RI

Location. The project is located along the Blackstone River in the Town of Lincoln, Rhode Island, about 5 miles north of Providence, Rhode Island. The site is within the Blackstone River Valley National Heritage Corridor

Existing project. Restoration measures involve the demolition and removal of movie screens, concession stand and associated structures; removal of asphalt and gravel base; excavation of about 7 acres of the site to create emergent marsh and open water habitat; seeding the remaining 7 acres of the site with a mix of perennial grasses native to New England to create grassland habitat; and planting a variety of trees and shrubs to provide shelter and nesting habitat for songbirds. The project includes a 3-year monitoring period to ensure establishment of uplands and wetlands vegetation. Restoration work was completed in August 2003. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on May 16, 2002 between the Corps and the State of Rhode Island, Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction; pay a cash contribution in the amount necessary to bring the non-Federal share of study and project costs including lands to 25 percent; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. New work: A contract for restoration of Lonsdale Drive-in was awarded on January 30, 2003. Work began in March 2003 and was completed in August 2003. Contractor earnings totaled $1,570,270 at FY end. The contractor is required to monitor the project for the first two growing seasons to ensure establishment of uplands and wetlands vegetation.

55. NINIGRET & CROSS MILLS PONDS, CHARLESTOWN, RI

Location. The Town of Charlestown is located along the south coast of Rhode Island in Washington County. The specific areas of restoration are located in and adjacent to the breachway in Ninigret Pond and at the junction of Cross Mills Pond with an unnamed outlet stream that discharges into Ninigret Pond.

Existing project. Project involves dredging about 40 acres of tidal shoal area in Ninigret Pond and planting eelgrass to restore aquatic habitat. Eelgrass will be transplanted to dredged areas by removing plugs from

nearby healthy donor beds or through direct seeding techniques. A 3.5-acre sediment basin would be dredged to prevent future shoaling restored aquatic habitat. The project also includes construction of a concrete lined bypass channel with two fish ladders from Ninigret Pond to Cross Mills Pond. Restoring the migratory pathway of herring and other anadromous species to Cross Mills Pond will allow passage to about 20 acres of spawning habitat. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on May 28, 2003 between the Corps and the State of Rhode Island, Coastal Resources Management Council. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction; pay a cash contribution in the amount necessary to bring the non-Federal share of study and project costs including lands to 35 percent; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. New work: Completed preparation of project plans and specifications and continued to work with the sponsor to acquire all necessary lands for project construction.

56. PRESUMPSCOT RIVER (SMELT HILL DAM), FALMOUTH, ME

Location. Smelt Hill Dam is located in southwestern Maine, along the Presumpscot River in the Town of Falmouth. The dam is located at the head-of-tide, about one mile upstream from the mouth of the river.

Existing project. Provides for the complete removal of Smelt Hill Dam. The project will restore about 7 miles of warm-water habitat to riffles and pools, and provide unimpeded passage of anadromous fish through this reach of the river. Removal of Smelt Hill Dam was completed in November 2002. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on June 6, 2002 between the Corps and the State of Maine Department of Marine Resources. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction; pay a cash contribution in the amount necessary to bring the non-Federal share of study and project costs including lands to 25 percent; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. New work: A contract for removal of Smelt Hill Dam was awarded on August 19, 2002. Work began the next month and was completed in November 2002. Final contract amount was $311,718.

57. SAGAMORE MARSH, CAPE COD CANAL, MA

Location. Sagamore Marsh is located in southeastern Massachusetts in the Towns of Bourne and Sandwich, approximately 50 miles southeast of Boston, Massachusetts. The marsh lies on the north side of the Cape Cod Canal, near the canal's east end.

Existing project. Provides for enlarging culverts beneath Scussett Beach and Cape Cod Canal Service Roads, installing sluice gates and excavating channels to increase tidal flows. Tidal flushing of Sagamore Marsh was restricted in the 1930s when the Cape Cod Canal was widened. Restoration of about 50 acres of salt marsh and estuarine habitat was completed in August 2002. (See Table 1-B for Act authorizing the existing project.)

Local cooperation. A Project Cooperation Agreement was signed on September 22, 1999 between the Corps and the Commonwealth of Massachusetts Department of Environmental Management. The project sponsor must provide all lands, easements, rights-of-way, including suitable borrow and dredged material disposal areas, and perform all relocations determined by the Government to be necessary for project construction; pay a cash contribution in the amount necessary to bring the non-Federal share of study and project costs including lands to 25 percent; and bear all operation, maintenance and repair costs of the project after completion.

Operations during fiscal year. New work: A contract for restoration of the salt marsh was awarded on January 10, 2000. Work began in May 2000 and was completed in August 2002. Final contract amount was $1,597,312. The project includes three years of monitoring, which began this FY.

58. ENVIRONMENTAL RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Project modifications for the improvement of the environment pursuant to Section 1135, Public Law 99-662, as amended (preauthorization).

(See Table 1-N)

Aquatic ecosystem restoration activities pursuant to Section 206, Public Law 99-662, as amended (preauthorization).

(See Table 1 - O)

General Investigations

59. SURVEYS

Costs for the FY for surveys from regular funds were $1,322,503 of which $508,524 was for one navigation study; $109,545 for five special studies; $480,139 for one comprehensive study; and $224,295 for coordination studies.

60. COLLECTION AND STUDY OF BASIC DATA

The District Engineer is the U.S. member on the Saint Croix River Board of Control. Annual inspections are made of conditions on the Saint Croix River and basic hydrologic information is compiled. A report of operations and development in the basin was prepared in cooperation with Canadian counterparts. Total costs for the FY were $20,281. Total costs to September 30, 2003 are $465,975.

The Gulf of Maine Council on the Marine Environment was established in 1989 under an agreement signed by the Governors of Maine, New Hampshire and Massachusetts, and the Premiers of Nova Scotia and New Brunswick. The Council was tasked under this agreement to develop consistent policies, initiatives and programs designed to protect and conserve the shared natural resources of the Gulf of Maine. In April 1993, the Council requested the New England District Engineer to participate in this international program as an "observer" to the Council. In this capacity, the District Engineer is expected to attend Council meetings and support their initiatives to the extent possible. In addition to the District Engineer's direct participation, a representative of the Corps is a member of the Working Group to the Council, which implements directives of the Council. The Corps representative on the Working Group is assisting the Habitat Sub-Group to establish policies, set priorities and identify lead agencies for implementing habitat restoration projects in the Gulf of Maine. This effort includes investigating potential habitat restoration sites eligible for Corps participation under Sections 1135 and 206, and for coordination of input from other Federal agencies. Total costs for the FY were $7,040. Total costs to September 30, 2003 are $158,445.

Flood plain studies comprise compilation and dissemination, upon responsible local request, of information on floods and potential flood damages. Studies identify areas subject to inundation by floods of various magnitudes and frequencies, and provide general criteria for guidance in the conservation and limited use of flood plain areas, along with engineering advice in planning to ameliorate the flood hazard. Total costs for the FY were $170,455. Total costs to September 30, 2003 are $11,112,800.

The April 1987 flood was one of the largest of recent times in New England, resulting in spillway discharge at six Corps flood control reservoirs. Comprehensive hydrologic analysis of this flood event is needed for future planning and design studies, as well as reservoir operation. Fiscal year 2003 funds were used to continue hydrologic analysis of the 1987 flood within the Merrimack River Basin. Total costs for the FY were $3,989. Total costs to September 30, 2003 are $145,970.

61. PLANNING, ENGINEERING AND DESIGN

(None.)

62. PRECONSTRUCTION ENGINEERING AND DESIGN

Pre-construction Engineering and Design costs were $183,611 for work on the Muddy River, Massachusetts flood control and ecosystem restoration project.

TABLE 1-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
1.	Aunt Lydia's Cove Chatham, MA	New Work Approp.	65,000	-	-	-	1,110,048
		Cost	74,295	-	-	-	1,110,048
		Maint. Approp.	293,000	415,600	285,000	258,500	1,318,100
		Cost	293,183	415,940	284,690	259,205	1,318,084
	(Contributed Funds)	New Work Contrib.	-81,813	-	-	-	102,206

		Cost	-2,607	-	-	-	102,206
	(Contributed	New Work					
	Funds - Other)	Contrib.	-408	-	-	-	62,292
		Cost	42	-	-	-	62,292
2.	Belfast Harbor, ME	New Work					
		Approp.	-	-	-	-	61,561
		Cost	-	-	-	-	61,561
		Maint					
		Approp.	1,500	7,100	61,800	1,533,500	1,907,057
		Cost	1,500	7,100	50,293	1,543,197	1,905,246
3.	Boston Harbor, MA	New Work					
		Approp.	2,508,000	2,800,000	-46,000	-	40,390,974 [3]
		Cost	4,637,416	2,967,815	129,910	1,460	40,388,124 [3]
		Maint.					
		Approp.	846,300	1,156,200	459,500	130,100	32,230,749 [4]
		Cost	1,519,318	1,115,666	508,733	131,857	32,224,690 [4]
	(Contributed	New Work					
	Funds)	Contrib.	1,073,272	869,000	125,000	-	5,331,272
		Cost	2,087,725	583,834	394,958	76,178	5,217,556
	(Contributed	New Work					
	Funds - Other)	Contrib.	1,041,728	86,000	225,000	-	6,336,503
		Cost	1,903,782	148,533	56,928	204,195	6,173,557
4.	Bridgeport Harbor, CT	New Work					
		Contrib.	-	-	-	-	4,491,119
		Cost	-	-	-	-	4,491,119
		Maint.					
		Approp.	84,700	142,939	147,300	293,800	2,855,366
		Cost	84,660	139,060	140,162	230,602	2,781,111
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	147,887
		Cost	-	-	-	-	147,887
5.	Camden Harbor, ME	New Work					
		Contrib.	-	-	-	-	102,400
		Cost	-	-	-	-	102,400
		Maint.					
		Approp.	-	53,700	15,100	481,900	747,189
		Cost	-	53,700	15,100	480,679	745,968
6.	Cape Cod Canal, MA	New Work					
		Approp.	-	-	-	-	21,798,322 [1,2]
		Cost	-	-	-	-	21,798,322 [1,2]
		Maint.					
		Approp.	11,506,000	9,514,605	9,417,542	8,746,000	209,745,029
		Cost	11,552,227	9,506,907	9,354,993	8,815,292	209,727,442
		Minor Rehab.					
		Approp.	-	-	-	-	390,677
		Cost	-	-	-	-	390,677

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
		Major Rehab.					
		Approp.	1,168,000	4,407,000	8,330,000	16,231,000	56,745,000
		Cost	243,910	4,612,864	8,909,282	16,201,326	56,576,383
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	115,432
		Cost	-	-	-	-	115,432
7.	Cocheco River, NH	New York					
		Approp.	-	-	-	-	119,089
		Cost	-	-	-	-	119,089
		Maint.					
		Approp.	130,800	99,930	82,700	185,900	1,164,389

		Cost	130,557	100,697	73,241	195,416	1,164,357
8.	Green Harbor, MA	New Work					
		Approp.	-	-	-	-	254,512
		Cost	-	-	-	-	254,512
		Maint.					
		Approp.	334,500	372,166	208,100	321,800	6,047,304
		Cost	334,713	372,745	208,081	321,796	6,047,281
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	158,341
		Cost	-	-	-	-	158,341
9.	Harbor of Refuge,	New Work					
	Block Island, RI	Approp.	-	-	-	-	576,856
		Cost	-	-	-	-	576,856
		Maint.					
		Approp.	599,000	100	19,500	60,700	3,562,524
		Cost	598,832	200	12,045	65,455	3,559,753
10.	Kennebec River, ME	New Work					
		Approp.	-	-	-	-	1,599,940
		Cost	-	-	-	-	1,599,940
		Maint.					
		Approp.	20,800	451,565	567,700	130,600	5,674,053
		Cost	20,800	451,351	567,254	125,600	5,668,248
11.	Kennebunk River, ME	New Work					
		Approp.	-	-	-	-	261,417
		Cost	-	-	-	-	261,417
		Maint.					
		Approp.	5,000	41,600	8,300	79,600	1,598,657
		Cost	4,633	42,100	8,300	77,798	1,596,833
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	88,917
		Cost	-	-	-	-	88,917
12.	Little Harbor, NH	New Work					
		Approp.	-	-	-	-	133,227
		Cost	-	-	-	-	133,227
		Maint.					
		Approp.	152,600	1,382,300	78,000	48,200	2,087,736
		Cost	152,403	1,382,684	75,399	50,917	2,087,596
13.	Narraguagus River, ME	New Work					
		Approp.	-	-	-	-	821,144
		Cost	-	-	-	-	821,144
		Maint.					
		Approp.	4,500	54,800	145,700	64,300	441,079
		Cost	4,500	54,800	136,254	73,716	441,049
14.	Newburyport Harbor, MA	New Work					
		Approp.	-	-	-	-	565,224
		Cost	-	-	-	-	565,224

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
		Maint.					
		Approp.	11,700	-600	54,300	33,800	6,961,330
		Cost	12,046	-	51,056	37,091	6,961,307
		Major Rehab.					
		Approp.	-	-	-	-	1,415,524
		Cost	-	-	-	-	1,415,524
	(Contributed	New Work					
	Funds, Other)	Contrib.	-	-	-	-	80,357
		Cost	-	-	-	-	80,357
15.	New Haven Harbor, CT	New Work					
		Approp.	-	-	-	-	4,773,246 [33]

		Cost	-	-	-	-	4,773,246 [33]
		Maint.					
		Approp.	14,500	237,800	174,500	1,609,800	19,159,032
		Cost	14,500	237,800	174,500	1,609,702	19,158,895
16.	Norwalk Harbor, CT	New Work					
		Approp.	-	-	-	-	531,129
		Cost	-	-	-	-	531,129
		Maint.					
		Approp.	30,800	142,800	132,700	181,600	4,406,727
		Cost	30,800	142,800	132,700	178,511	4,403,638
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	34,500
		Cost	-	-	-	-	34,500
17.	Penobscot River, ME	New Work					
		Approp.	-	-	-	-	501,020
		Cost	-	-	-	-	501,020
		Maint.					
		Approp.	-	133,400	119,600	900	1,339,075
		Cost	-	133,400	112,270	8,204	1,339,050
18.	Plymouth Harbor, MA	New Work					
		Approp.	-	-	-	-	2,127,218
		Cost	-	-	-	-	2,127,218
		Maint.					
		Approp.	65,300	137,324	18,000	54,000	1,803,463
		Cost	65,688	137,677	11,002	61,229	1,803,434
		Major Rehab.					
		Approp.	-	-	-	-	894,475
		Cost	-	-	-	-	894,475
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	541,611
		Cost	-	-	-	-	541,611
		Maint.					
		Contrib.	-	-	-	-	400
		Cost	-	-	-	-	400
19.	Point Judith Pond and	New Work					
	Harbor of Refuge, RI	Approp.	-	-	-	-	2,714,510
		Cost	-	-	-	-	2,714,510
		Maint.					
		Approp.	65,300	137,324	18,000	115,800	8,301,834
		Cost	65,688	137,677	11,002	114,206	8,300,240
		Major Rehab.					
		Approp.	-	-	-	-	1,926,000
		Cost	-	-	-	-	1,926,000
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	17,587
		Cost	-	-	-	-	17,587

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
20.	Portland Harbor, ME	New Work					
		Approp.	-	-	-	-	9,588,710
		Cost	-	-	-	-	9,588,710
		Maint.					
		Approp.	51,800	-2,200	363,200	90,400	11,451,439
		Cost	52,879	-2,274	300,667	153,455	11,451,353
	(Contributed	New Work					
	Funds)	Contrib.	-5,647	-	-	-	54,353
		Cost	208	-	-	-	54,353
21.	Providence River and	New Work					
	Harbor, RI	Approp.	-	-	-	-	25,417,022

		Cost	-	-	-	-	25,417,022
		Maint.					
		Approp.	1,573,500	916,443	925,368	14,056,595	25,454,828
		Cost	1,580,494	918,505	871,016	14,108,898	25,452,070
	(Contributed	Maint.					
	Funds)	Contrib.	-	-	-	3,200,000	3,200,000
		Cost	-	-	-	1,345,530	1,345,530
22.	Rockland Harbor, ME	New Work					
		Approp.	-	-	-	-	1,948,462 [32]
		Cost	-	-	-	-	1,948,462 [32]
		Maint.					
		Approp.	-	37,700	52,400	1,007,600	1,635,478
		Cost	-	37,700	43,647	1,016,059	1,635,185
23.	Salem Harbor, MA	New Work					
		Approp.	-	-	-	-	1,693,202
		Cost	-	-	-	-	1,693,202
		Maint.					
		Approp.	26,100	23,070	141,600	66,900	1,102,997
		Cost	25,730	23,928	141,052	67,381	1,102,839
24.	Saugus River, MA	New Work					
		Approp.	645,000	2,344,313	71,454	87,086	3,879,853
		Cost	649,331	2,349,203	74,536	87,086	3,879,853
		Maint.					
		Approp.	-	-	-	14,600	14,600
		Cost	-	-	-	14,600	14,600
	(Contributed	New Work					
	Funds)	Contrib.	110,000	280,000	-	-	390,000
		Cost	11,678	346,718	18,421	-87,092	289,725 [34]
	(Contributed	New York					
	Funds-Other)	Contrib.	-	272,840	-	-	272,840
		Cost	-	130,314	2,245	-	132,559
25.	Scituate Harbor, MA	New Work					
		Approp.	-	-	-	-	379,851
		Cost	-	-	-	-	379,851
		Maint.					
		Approp.	2,400	80,000	1,391,000	2,980,000	5,595,579
		Cost	2,400	80,261	1,382,784	2,987,591	5,594,623
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	69,976
		Cost	-	-	-	-	69,976
26.	Seekonk River,	New Work					
	Providence, RI	Approp.	-	-	-	-	900,000
		Cost	119,056	196,776	450,555	1,773	898,966
	(Contributed	New Work					
	Funds)	Contrib.	-	588,500	120,000	79,673	788,173
		Cost	-	42,590	660,626	4,828	708,044

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
27.	Sesuit Harbor, MA	New Work					
		Approp.	-	-	-	-	226,306
		Cost	-	-	-	-	226,306
		Maint.					
		Approp.	63,400	202,300	94,400	137,200	1,698,806
		Cost	63,625	202,480	94,372	137,272	1,698,796
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	124,588
		Cost	-	-	-	-	124,588
28.	Union River, ME	New Work					
		Approp.	-	-	-	-	146,855
		Cost	-	-	-	-	146,855
		Maint.					
		Approp.	81,300	1,119,064	1,073,000	589,800	3,231,855
		Cost	75,506	1,123,232	1,070,994	593,423	3,231,830
30.	Point Beach, Milford, CT	New Work					
		Approp.	8,000	421,181	785,000	655,000	2,271,284
		Cost	4,378	422,764	775,088	644,290	2,246,346
	(Contributed	New Work					
	Funds)	Contrib.	-	350,000	700,000	-	1,150,000
		Cost	-	114,390	476,105	329,936	1,020,431
33A.	West Hill Dam, MA	New Work					
		Approp.	-	-	-	-	2,306,902 [6]
		Cost	-	-	-	-	2,306,902 [6]
		Maint.					
		Approp.	981,000	668,609	571,300	628,312	12,553,919
		Cost	979,224	672,317	574,332	629,855	12,553,372
		Major Rehab.					
		Approp.	-	2,500,000	10,070,000	697,000	13,267,000
		Cost	-	2,362,455	10,176,649	696,451	13,235,556
34.	Charles River	New Work					
	(Natural Valley	Approp.	-	-	-	-	8,606,000
	Storage Areas), MA	Cost	-	-	-	-	8,606,000
		Maint.					
		Approp.	251,000	200,542	232,000	233,000	3,591,885
		Cost	255,250	201,068	230,940	230,584	3,588,376
35A.	Ball Mountain	New Work					
	Lake, VT	Approp.	-	-	-	-	11,107,842 [7]
		Cost	-	-	-	-	11,107,842 [7]
		Maint.					
		Approp.	867,000	1,134,695	976,469	967,190	17,389,077
		Cost	903,174	1,134,907	972,347	967,726	17,384,020
35B.	Barre Falls Dam, MA	New Work					
		Approp.	-	-	-	-	1,967,819
		Cost	-	-	-	-	1,967,819
		Maint.					
		Approp.	506,000	540,409	506,889	596,180	11,357,538
		Cost	494,453	550,135	506,108	595,583	11,353,235
35C.	Birch Hill Dam, MA	New Work					
		Approp.	-	-	-	-	4,815,679 [8]
		Cost	-	-	-	-	4,815,679 [8]
		Maint.					
		Approp.	674,000	551,456	561,220	600,000	12,629,726
		Cost	659,078	558,777	569,568	593,921	12,615,209
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	32,000 [9]
		Cost	-	-	-	-	32,000 [9]

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
35D.	Colebrook River Lake, CT	New Work Approp.	-	-	-	-	14,263,971
		Cost	-	-	-	-	14,263,971
		Maint. Approp.	420,000	401,542	496,352	718,700	8,916,121
		Cost	413,939	401,857	501,433	719,300	8,914,817
35E.	Conant Brook Dam, MA	New Work Approp.	-	-	-	-	2,950,530
		Cost	-	-	-	-	2,950,530
		Maint. Approp.	192,000	201,384	165,484	207,680	3,431,245
		Cost	194,023	201,350	162,143	211,879	3,430,716
35F.	Knightville Dam, MA	New Work Approp.	-	-	-	-	3,415,640 [10]
		Cost	-	-	-	-	3,415,640 [10]
		Maint. Approp.	718,000	690,161	624,406	914,400	13,841,413
		Cost	537,847	740,820	729,090	937,892	13,838,334
35G.	Littleville Lake, MA	New Work Approp.	-	-	-	-	7,013,412
		Cost	-	-	-	-	7,013,412
		Maint. Approp.	398,000	439,209	627,876	622,600	9,903,112
		Cost	395,871	443,229	516,802	729,042	9,898,375
35H.	North Hartland Lake, VT	New Work Approp.	-	-	-	-	7,312,225 [11]
		Cost	-	-	-	-	7,312,225 [11]
		Maint. Approp.	509,000	562,794	521,509	812,500	12,193,046
		Cost	513,299	563,421	510,869	819,448	12,187,791
35I.	North Springfield Lake, VT	New Work Approp.	-	-	-	-	6,831,526 [12]
		Cost	-	-	-	-	6,831,526 [12]
		Maint. Approp.	623,000	843,846	822,315	778,530	17,382,848
		Cost	626,182	847,218	787,168	790,327	17,359,355
35J.	Otter Brook Lake, NH	New Work Approp.	-	-	-	-	4,360,448 [13]
		Cost	-	-	-	-	4,360,448 [13]
		Maint. Approp.	478,000	530,509	852,108	818,000	12,349,914
		Cost	480,159	531,558	823,271	833,007	12,335,758
35K.	Surry Mountain Lake, NH	New Work Approp.	-	-	-	-	2,833,610 [14]
		Cost	-	-	-	-	2,833,610 [14]
		Maint. Approp.	500,000	451,991	664,165	889,000	12,899,847
		Cost	505,234	452,200	645,031	904,625	12,895,889
35L.	Townshend Lake, VT	New Work Approp.	-	-	-	-	8,540,545 [15]
		Cost	-	-	-	-	8,540,545 [15]
		Maint. Approp.	1,077,000	765,647	690,970	893,900	15,938,935
		Cost	989,028	859,661	684,307	894,784	15,932,029
35M.	Tully Lake, MA	New Work Approp.	-	-	-	-	1,666,752 [16]
		Cost	-	-	-	-	1,666,752 [16]

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
		Maint.					
		Approp.	427,000	516,262	562,538	536,500	11,286,025
		Cost	412,733	525,724	567,720	536,332	11,285,126
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	40,000 [9]
		Cost	-	-	-	-	40,000 [9]
35N.	Union Village	New Work					
	Dam, VT	Approp.	-	-	-	-	4,095,160 [17]
		Cost	-	-	-	-	4,095,160 [17]
		Maint.					
		Approp.	515,000	446,302	584,464	685,000	11,011,759
		Cost	516,206	447,490	537,933	712,839	10,992,134
36.	Faulkner Island, CT	New Work					
		Approp.	-	1,650,000	-	-	3,168,000
		Cost	366,697	2,277,637	16,566	3,518	3,168,000
37.	Fox Point Barrier, RI	New Work					
		Approp.	-	-	-	-	11,112,801
		Cost	-	-	-	-	11,112,801
		Major Rehab.					
		Approp.	-	444,000	866,000	300,000	1,610,000
		Cost	-	32,899	1,246,156	307,427	1,586,483
	(Contributed	New Work					
	Funds)	Contrib.	-	-	-	-	3,679,500 [5]
		Cost	-	-	-	-	3,679,500 [5]
38A.	Black Rock Lake,	New Work					
	CT	Approp.	-	-	-	-	8,182,300
		Cost	-	-	-	-	8,182,300
		Maint.					
		Approp.	446,000	309,436	645,000	394,740	7,879,757
		Cost	453,619	304,355	650,277	395,011	7,878,938
38B.	Hancock Brook	New Work					
	Lake, CT	Approp.	-	-	-	-	4,178,911
		Cost	-	-	-	-	4,178,911
		Maint.					
		Approp.	232,000	258,122	213,810	266,300	3,901,166
		Cost	234,876	255,750	210,896	271,004	3,900,098
38C.	Hoosic River, Syndicate Road,	New Work					
	Williamstown, MA	Approp.	56,000	50,100	219,000	-	337,100
		Cost	55,340	54,081	217,145	762	335,739
	(Contributed	New Work					
	Funds)	Contrib.	-	-	121,000	-	121,000
		Cost	-	-	120,583	-	120,583
38D.	Hop Brook Lake,	New Work					
	CT	Approp.	-	-	-	-	6,151,562 [18]
		Cost	-	-	-	-	6,151,562 [18]
		Maint.					
		Approp.	827,000	802,639	1,031,526	921,900	19,179,890
		Cost	831,829	790,809	1,036,881	932,243	19,177,732
38E.	Northfield Brook	New Work					
	Lake, CT	Approp.	-	-	-	-	2,850,512 [19]
		Cost	-	-	-	-	2,850,512 [19]
		Maint.					
		Approp.	309,000	363,860	282,000	353,760	6,944,328
		Cost	328,898	346,641	291,359	361,804	6,943,736
38F.	Thomaston Dam,	New Work					
	CT	Approp.	-	-	-	-	14,282,112
		Cost	-	-	-	-	14,282,112

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
		Maint. Approp.	1,028,000	674,051	555,000	659,000	14,158,393
		Cost	1,030,589	663,827	559,702	664,518	14,157,367
39A.	Blackwater Dam, NH	New Work Approp.	-	-	-	-	1,319,746 [20]
		Cost	-	-	-	-	1,319,746 [20]
		Maint. Approp.	532,000	524,164	579,293	1,179,000	9,804,551
		Cost	532,762	524,189	578,881	1,179,191	9,804,310
39B.	Edward MacDowell Lake, NH	New Work Approp.	-	-	-	-	2,014,253 [21]
		Cost	-	-	-	-	2,014,253 [21]
		Maint. Approp.	518,000	442,414	464,676	625,000	10,169,659
		Cost	518,869	442,445	464,458	620,446	10,164,887
39C.	Franklin Falls Dam, NH	New Work Approp.	-	-	-	-	7,950,487 [22]
		Cost	-	-	-	-	7,950,487 [22]
		Maint. Approp.	579,000	1,015,972	888,037	777,000	16,385,095
		Cost	581,465	1,016,019	887,721	775,212	16,382,976
39D.	Hopkinton-Everett Lakes, NH	New Work Approp.	-	-	-	-	21,452,440 [23]
		Cost	-	-	-	-	21,452,440 [23]
		Maint. Approp.	1,316,000	1,197,884	1,429,102	1,460,100	25,362,678
		Cost	1,318,170	1,197,964	1,294,178	1,578,739	25,346,187
39E.	North Nashua River, Lancaster, MA	New Work Approp.	143,000	10,000	-	-4,378	253,751
		Cost	141,428	11,161	1,670	-3,343	253,751
	(Contributed Funds)	New Work Contrib.	112,000	-	-	3,097	115,097
		Cost	69,204	41,422	1,128	3,343	115,097
40.	New Bedford, Fairhaven, and Acushnet, MA	New Work Approp.	-	-	-	-	11,510,088
		Cost	-	-	-	-	11,510,088
		Maint. Approp.	280,000	369,968	353,510	1,027,000	9,550,099
		Cost	282,978	367,693	351,260	1,029,087	9,546,144
	(Contributed Funds)	New Work Contrib.	-	-	-	-	6,513,763 [24]
		Cost	-	-	-	-	6,513,763 [24]
41.	Pleasant Point, Perry, ME	New Work Approp.	-	-	-	5,000	194,000
		Cost	-	-	-	3,793	192,793
42.	Quonset Point, Davisville, RI	New Work Approp.	-111,071	-	-	-40,000	2,248,929
		Cost	-82,898	-	-	-37,384	2,248,647
	(Contributed Funds)	New Work Contrib.	-	-	-	-	1,082,000
		Cost	85,314	-	-	37,384	1,082,000
43.	Roughans Point, Revere, MA	New Work Approp.	-	30,000	-400,000	-	7,838,779
		Cost	54,153	26,823	-396,179	1,114	7,837,878
	(Contributed Funds)	New Work Contrib.	-	144,329	400,000	-	3,544,329
		Cost	398,580	243,191	675,739	26,490	3,446,780

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
44.	Saint John River Basin, ME	New Work Approp.	-	-	-65,000	-	452,000
		Cost	563	-	-	-	447,943
45.	Stamford, CT	New Work Approp.	-	-5,000	-	-	9,901,300
		Cost	-	-	-	-	9,900,639
		Maint. Approp.	340,000	361,831	378,964	397,000	9,180,986
		Cost	364,678	362,275	380,025	392,360	9,174,956
	(Contributed Funds)	New Work Contrib.	-	-	-	-	3,367,970 [25]
		Cost	-	-	-	-	3,367,453 [25]
	(Contributed Funds - Other)	New Work Contrib.	-	-	-	-	210,000
		Cost	-	-	-	-	209,969
46A.	Buffumville Lake, MA	New Work Approp.	-	-	-	-	2,998,603 [26]
		Cost	-	-	-	-	2,998,603 [26]
		Maint. Approp.	497,000	446,224	806,008	717,933	10,333,181
		Cost	491,053	452,218	805,370	718,052	10,330,453
46B.	East Brimfield Lake, MA	New Work Approp.	-	-	-	-	7,057,043 [27]
		Cost	-	-	-	-	7,057,043 [27]
		Maint. Approp.	421,000	345,426	312,247	405,000	8,330,112
		Cost	421,231	345,906	312,163	402,519	8,325,982
46C.	Hodges Village Dam, MA	New Work Approp.	-	-	-	-	4,461,268 [28]
		Cost	-	-	-	-	4,461,268 [28]
		Maint. Approp.	457,000	473,007	434,523	546,100	13,019,577
		Cost	452,400	478,231	434,447	544,684	13,016,480
		Major Rehab. Approp.	966,000	-20,000	-	-	18,416,000
		Cost	990,409	5,297	-	-	18,416,000
46D.	Mansfield Hollow Lake, CT	New Work Approp.	-	-	-	-	6,447,164 [29]
		Cost	-	-	-	-	6,447,164 [29]
		Maint. Approp.	521,000	379,280	447,058	642,700	10,131,637
		Cost	520,460	376,302	451,033	642,266	10,130,139
46E.	West Thompson Lake, CT	New Work Approp.	-	-	-	-	7,001,220 [30]
		Cost	-	-	-	-	7,001,220 [30]
		Maint. Approp.	518,000	559,912	903,223	567,275	12,118,407
		Cost	521,555	554,912	905,612	569,268	12,117,608
46F.	Westville Lake, MA	New Work Approp.	-	-	-	-	5,684,683 [31]
		Cost	-	-	-	-	5,684,683 [31]
		Maint. Approp.	432,000	372,265	464,516	555,000	9,729,840
		Cost	432,485	369,635	463,984	556,107	9,725,478
47.	Town Brook, Quincy and Braintree, MA	New Work Approp.	1,286,000	324,000	18,000	-	33,193,740
		Cost	1,368,752	367,922	59,701	8,334	33,181,599

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sep. 30, 2003
	(Contributed Funds)	New Work Contrib.	670,000	-	109,785	-	4,129,785
		Cost	426,902	191,681	153,852	116,561	4,086,717
	(Contributed Funds - Other)	NewWork Contrib.	3,674,889	-	382,000	60,000	9,411,889
		Cost	2,485,128	1,381,558	554,485	462,029	9,017,339
48.	Vermont Dams Remediation, VT	New Work Approp.	-	-	68,000	41,000	109,000
		Cost	-	-	6,876	16,972	23,848
	(Contributed Funds)	NewWork Contrib.	-	-	-	75,000	75,000
		Cost	-	-	-	3,232	3,232
53.	Lebanon, NH	New Work Approp.	-	457,000	280,000	1,065,000	1,802,000
		Cost	-	50,304	505,496	1,082,236	1,638,035
	(Contributed Funds - Other)	NewWork Contrib.	-	-	130,000	460,000	590,000
		Cost	-	-	-	407,864	407,864
54.	Lonsdale Drive-In, Lincoln, RI	New Work Approp.	27,000	43,800	128,000	1,335,000	1,633,800
		Cost	32,272	48,879	127,115	1,324,483	1,622,334
	(Contributed Funds)	New Work Contrib.	-	-	-	448,090	448,090
		Cost	-	-	-	368,053	368,053
55.	Ninigret & Cross Mills Pond, Charlestown, RI	New Work Approp.	-	-	1,000	199,000	200,000
		Cost	-	-	585	199,159	199,744
	(Contributed Funds)	New Work Contrib.	-	-	-	1,113,267	1,113,267
		Cost	-	-	-	-	-
56.	Presumpscot River (Smelt Hill), Falmouth, ME	New Work Approp.	43,000	54,600	322,400	146,000	661,000
		Cost	79,913	57,413	312,856	145,700	650,168
	(Contributed Funds)	New Work Contrib.	-	-	450	-	450
		Cost	-	-	-	-	-
57.	Sagamore Marsh, Cape Cod Canal, MA	New Work Approp.	1,220,000	194	-3,000	24,000	1,843,694
		Cost	1,089,129	124,226	800	22,095	1,836,008
	(Contributed Funds)	New Work Contrib.	380,500	229,500	-	-	610,000
		Cost	144,600	399,481	53,616	10,350	608,048

TABLE 1-A (Continued) COST AND FINANCIAL STATEMENT

[1] Excludes $ 6,138,157 from Public Works Funds and $4,849,740 from Emergency Relief Funds.
[2] Includes $389,929 Code 711 funds and $511,089 Code 713 funds.
[3] Excludes $935,303 Emergency Relief Funds and $1,030,806 Public Works Funds.
[4] Excludes $17,767 Contributed Funds.
[5] Excludes $245,000 expended for land condemnation.
[6] Includes $18,310 Code 711 funds.
[7] Includes $504,062 Code 711 funds and $67,066 for fish passage facility.
[8] Includes $618,469 Code 711 funds and $32,000 Code 713 Funds.
[9] Recreational cost sharing.
[10] Includes $199,303 Code 711 funds.
[11] Includes $229,436 Code 711 funds.
[12] Includes $59,536 Code 711 funds.
[13] Includes $364,688 Code 711 funds.
[14] Includes $470,077 Code 711 funds.
[15] Includes $245,168 Code 711 funds and $1,117,494 for fish passage facility.
[16] Includes $3,695 Code 711 funds and $115,138 Code 713 funds.
[17] Includes $88,931 Code 711 funds.
[18] Includes $143,538 Code 711 funds.
[19] Includes $20,000 Code 711 funds.
[20] Includes $2,881 Code 711 funds.
[21] Includes $6,432 Code 711 funds.
[22] Includes $4,671 Code 711 funds.
[23] Includes $179,727 Code 711 funds.
[24] Excludes $146,020 expended to date for land condemnation.
[25] Excludes $199,410 expended to date for land condemnations.
[26] Includes $71,943 Code 711 funds.
[27] Includes $207,700 Code 711 funds.
[28] Includes $6,255 Code 711 funds and $40,353 Code 713 funds.
[29] Includes $68,717 Code 711 funds.
[30] Includes $315,420 Code 711 funds.
[31] Includes $67,667 Code 711 funds.
[32] Excludes about $225,000 expended by local interest in terminal and transfer facilities.
[33] Includes $290,877 National Industrial Recovery Funds and $59,207 Public Works Funds.
[34] Excludes $96,730 expended by the Town of Saugus for divers to assist in the location and removal of channel obstructions.

TABLE 1-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	AUNT LYDIA'S COVE, CHATHAM, MA (See Section 1 of Text.)	
July 14, 1960 as amended	Entrance channel 100 feet wide by 900 feet long and 9.5 acre anchorage area, both 8 feet deep.	P.L. 86-645, Section 107. Authorized by the Chief of Engineers August 31, 1994.
September 19, 1890	**BELFAST HARBOR, ME** (See Section 2 of Text.) Main channel 15 feet deep, 220 feet wide, and anchorage areas east and west side 8 and 13 feet deep respectively.	H. Doc. 81, 51st Cong. 1st sess.
	BOSTON HARBOR, MA (See Section 3 of Text.)	
March 2, 1825	Preservation of islands and seawalls.	
June 14, 1880	Weir River (Nantucket Beach Channel) 9.5 ft. deep. 100 ft. wide to Steamboat Wharf at Nantasket.	Annual Report, 1881, p. 518
August 5, 1886	Fort Point Channel. [1]	H. Ex. Doc. 206,48th Cong., 2nd sess., Annual Report, 1885, p. 543.
September 19,1890	Weir River (Nantucket Beach Channel) 9.5 ft. deep. 150 ft. wide to Steamboat Wharf at Nantasket.	Annual Report, 1890, p. 503
July 25, 1892	Weir River (Nantucket Beach Channel) from mouth of Weir River to Steamboat Wharf at Nantasket Beach 12 ft. deep, 150 ft. wide.	Annual Report, 1893, p. 769
	Channel 15 feet deep from Long Island to Nixes Mate Shoal (Nixes Mate to Nubble Channel).	Annual Report, 1887, p.517
July 13, 1892	Channel 27 feet from Nantasket Roads to President Roads.	Annual Report, 1893, p. 766
June 3, 1896	Dredge Chelsea River Channel to 18 feet.	H. Ex. Doc. No. 162,53rd Cong., 3rd sess., Annual Report, 1895, p. 648
March 3, 1899	For 30-foot channel from sea to President Roads through Broad Sound by less direct route than 35 and 40-foot channels.	H. Doc. 133, 55th Cong., 2nd sess. Annual Report, 1898, p. 886.
June 13, 1902	For 35-foot channel from sea to Boston Naval Shipyard. Chelsea and Charles River Bridges.	H. Doc. 119, 56th Cong., 2nd sess. Annual Report, 1901, p. 1096
	Elimination from project of removal of Finns Ledge at outer entrance.	Authorized by Chief of Engineers. March 11, 1913.
July 25, 1912	Dredge Chelsea River channel 25 ft.	H. Doc. 272, 62nd Cong., 2nd sess.[2]
August 8, 1917	Depth of 40 feet (45 feet in rock) in Broad Sound Channel.	H. Doc. 931, 63rd Cong., 2nd sess.[2]
August 30, 1935 [3]	Present project dimensions of channel from President Roads to Commonwealth pier No. 1, East Boston and anchorage area north side of President Roads.	H. Doc. 244, 72nd Cong., 1st sess.[2]
Do.	Present project dimensions of that part of approach channel to U.S. Navy dry-dock No.3 at South Boston between Main Ship Channel and U.S. harbor line.	Rivers and Harbors Committee Doc. 29, 74th Cong., 1st sess. [2]
August 26, 1937	Chelsea River, channel 30 feet deep.	Rivers and Harbors Committee Doc. 24, 75th Cong., 1st sess. [2]
October 17, 1940	Reserved channel 30 feet deep.	H. Doc. 225, 76th Cong., 1st sess. [2]
September 7, 1940	Abandons seaplane channel authorized in 1940 River and Harbor Act (H.Doc.262,76th Cong., 1st sess.)	Public Law 420,78th Cong.
March 2, 1945	Extension of 40-foot channel.	H. Doc. 733, 79th Cong., 2nd sess.
July 24, 1946	Extension of President Roads anchorage.	H. Doc. 244, 80th Cong., 1st sess. [2]
July 3, 1958	Reserved channel 35 feet deep, 430 feet wide, extending one	H. Doc. 349, 84th Cong., 2nd sess.[2]
October 23, 1962	Chelsea River Channel and Maneuvering Basin 35 feet deep.	H. Doc. 350, 87th Cong., 2nd sess. [2]
January 1, 1990	Deauthorizes 1945 Act.	Federal Register Volume 55, No. 194, October 5, 1990.
November 28, 1990	Deepen Mystic River and Reserved Channels to 40 feet; Chelsea River Channel to 38 feet; widen and deepen Inner Confluence Area to 40 feet; mark Presidents Roads Channel and expand Presidents Roads Anchorage from 353 to 420 acres.	Section 101, Public Law 101-640.

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
October 31, 1992	Deauthorizes portion of the 35-foot channel in Boston Inner Harbor lying easterly of the Charlestown waterfront authorized in 1902 River and Harbor Act.	Section 116(2), P.L. 102-580
October 12, 1996	Deauthorizes portion of the 35-foot Chelsea River Channel authorized in the 1962 Act.	Section 364(12), P.L. 104-303
October 12, 1996	Deauthorizes portion of the 40-foot Reserved Channel authorized in the 1990 Act.	Section 364(16), P.L. 104-303
	BRIDGEPORT HARBOR, CT (See Section 4 of Text.)	
July 4, 1836	Fayerweather Island seawall.	
March 3, 1899	Shore protection of Fayerweather Island.	Annual Report, 1899, page 1173
March 2, 1907	West breakwater and present project dimensions of east breakwater.	H. Docs. 275 and 521, 59th Cong., 2nd sess.
March 2, 1919	Present project depths of 18-and 12-foot anchorage basins.	H. Doc. 898, 63rd Cong., 2nd sess.
July 3, 1930	25-foot entrance channel, 25-foot anchorage and an 18-foot channel through Johnsons River, present project dimensions of channels through Poquonock River, Yellow Mill Pond, Black Rock Harbor and Cedar Creek.	H. Doc. 281,71st Cong., 2nd sess.
August 26, 1937	25-foot channel through main harbor, and present Project location and extent of 18- and 12-foot anchorage basins.	H. Doc. 232, 75th Cong., 1st sess.
March 2, 1945	30-foot channel; elimination of 12-foot anchorage.	H. Doc. 819, 76th Cong., 3rd sess.
July 24, 1946	30-foot turning basin and 15- and 9-foot channels in Johnsons River	H. Doc. 680, 79th Cong., 2nd sess. [4]
July 3, 1958	Present depth and extend of main channel, and turning Basin south and southeast of Cilco Terminal; Black Rock Harbor breakwater; Burr and Cedar Creek anchorage. Upper Johnsons River anchorage; lower Johnsons River anchorage.	H. Doc. 136, 85th Cong.
November 2, 1979	Deauthorizes the removal of rock in Yellow Mill Pond authorized in the 1930 Act.	H. Doc. 157, 96th Cong., 1st sess.
November 17, 1986	Deauthorizes construction of two rubble-mound breakwaters at the entrance to Black Rock Harbor and dredging a 28-acre anchorage 6 feet deep in Burr and Cedar Creeks at the head of Black Rock Harbor authorized In the 1958 Act.	Sec, 1002, P. L. 99-662
October 12, 1996	Deauthorizes two-acre anchorage area at the head of the Johnsons River authorized in the 1958 Act, and portion of the Johnsons River navigation channel authorized in the 1946 Act.	Section 364 (2) (A) & (B), P.L. 104-303
August 17, 1999	Deauthorizes a 2.4-acre anchorage area, 9 feet deep , and an adjacent 0.6-acre anchorage area, 6 feet deep, located on the west side of the Johnsons River authorized in the 1958 Act.	Section 365 (a) (1), P.L. 106-53
	CAPE COD CANAL, MA (See Section 6 of Text.)	
January 21, 1927 (Section 2)	Purchase canal from Boston, Cape Cod & New York Canal Co., in accordance with contract dated July 29, 1921, executed by that company.	H. Doc. 139, 67th Cong., 2nd sess.
Included in Public Works Adminis-tration program, September 6, 1933	Construct three bridges and widen canal to 250 feet.	H. Doc. 795, 71st. Cong., 3rd sess.

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
June 26, 1934 (Permanent Appropriations Repeal Act)	Operation and care of works of improvement provided for the funds from War Department appropriations for rivers and harbors.	Do.
Included in Public Works Adminis-tration program, April 29, 1935	Construct a mooring basin.	Do.
Included in Emergency Relief Program, May 28, 1935.	Dredging and bank protection.	Do.
August 30, 1935	Existing project for main canal adopted.	Rivers and Harbor Committee Doc. 15, 74th Cong., 1st sess.
March 2, 1945	Channel and turning basin 15-feet deep in Onset Bay.	H. Doc. 431, 77th Cong., 1st sess.
July 3, 1958	Extend East Boat Basin for an area of about 4.3 acres to a depth of eight feet.	H. Doc. 168, 85th Cong., 1st sess.
August 17, 1999	Authorizes Secretary to pay up to $300,000 for alternate transportation during rehabilitation of the Railroad Bridge.	Section 536, P.L. 106-53.
	COCHECO RIVER, NH (See Section 7 of Text.)	
September 19, 1890	Provides for a 3 mile long tidewater channel 7 feet deep and 60 to 70 feet wide.	H. Doc. 74, 51st Cong. 1st sess.
October 12, 1996	Deauthorizes portion of 1890 Act and directs maintenance dredging of the remaining project.	Section 365(18), P.L. 104-303
	GREEN HARBOR, MA (See Section 8 of Text.)	
July 14, 1960 as amended	Channel six feet deep, 100 feet wide from deep water to head of navigation; anchorage near town pier; sealing, rebuilding in part and extension of existing west jetty.	Section 107, P.L. 86-645 Authorized by the Chief of Engineers December 15, 1965.
August 17, 1999	Deauthorizes portion of the 6-foot channel and turning basin, and redesignates portion of 6-foot channel as an anchorage area.	Section 365 (a)(11) & (d), P.L. 106-53.
	HARBOR OF REFUGE, BLOCK ISLAND, RI (See Section 9 of Text.)	
July 11, 1870	Main breakwater.	Annual report 1868, p. 785 and S. Misc. Doc. 81, 40th Cong., 2nd sess.
August 2, 1882	Repairs to basin walls and cliff protection east of harbor.	S. Ex. Doc.26, 47th Cong., 1st sess.
August 5, 1886	Breakwater enclosing inner harbor.	S. Doc. 27, 48th Cong., 2nd sess. and Annual Report 1885, p. 610
June 3, 1896	Raising crest of main breakwater and making it sandtight.	H. Doc. 83, 54th Cong., 1st sess.
July 25, 1912	Rebuilding basin walls and present project dimensions of dredged area.	H. Doc. 828, 60th Cong., 1st sess.
November 17, 1986	Deauthorizes two 15-foot anchorages in the outer harbor authorized by the River and Harbor Act of 1912. Inner Harbor.	Section 1002, P.L. 99-662.
	NARRAGUAGUS RIVER, ME (See Section 13 of Text.)	
October 23, 1962	Channel 11 feet deep and 150 feet wide from deep water to Wyman, thence 9 feet deep and 100 feet wide to Milbridge with widening opposite Milbridge for an anchorage, and thence 6 feet deep and 100 feet wide to proposed town landing with widening near landing for an anchorage.	H. Doc. 530, 87th Cong., 2nd sess.

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	NEWBURYPORT HARBOR, MA (See Section 14 of Text.)	
June 14, 1880	Construction of rubble stone jetties.	
June 25, 1910	Dredging the bar at the entrance to harbor.	Annual Report for 1910, p. 59.
March 2, 1945	Dredging channel from deep water to wharves and a widened turning basin.	H. Doc. 703, 76th Cong., 3rd sess.
November 17, 1986	Deauthorizes uncompleted portions of the 1945 Act.	Section 1002, P. L. 99-662.
October 31, 1992	Deauthorizes small portion of 1910 Act.	Section 116(3), P.L. 102-580
	PENOBSCOT RIVER, ME (See Section 17 of Text.)	
July 5, 1884	Widening channel at Bangor and Crosby's Narrows.	S. Ex. Doc. 44, 48th Cong., 1st sess. Annual Rpt. 1884, p. 475
August 11, 1888	Dredging between Winterport and Bucksport.	H. Ex. Doc. 133, 50nd Cong., 1st sess. Annual Rpt. 1888, p. 425
July 31, 1892	Widening the channel at Bangor.	H. Ex. Doc. 37, 52nd Cong., 1st sess. Annual Rpt. 1892, p. 553
March 2, 1907	Further widening of the harbor at Bangor.	H. Doc. 739, 59th Cong., 1st sess. (other maps are in H. Doc. 652, 71st Cong., 3rd sess.)
	PLYMOUTH HARBOR, MA (See Section 18 of Text.)	
March 3, 1899	Beach Protection.	Annual Report for 1899, p. 1089.
March 4, 1913	Dredging 18-foot channel.	H. Doc. 1194, 62nd Cong., 3rd sess
September 22, 1922	Dredging 15-foot extension, including turning basin.	H. Doc. 996, 66th Cong., 3rd sess.
October 23, 1962	Rubblestone breakwater. Anchorages are eight feet deep inside breakwater. Elimination of authorized 18-foot anchorage from existing project.	H. Doc. 124, 87th Cong., 2nd sess.
July 9, 1965	Recreational development.	
	PROVIDENCE RIVER AND HARBOR, RI (See Section 21 of Text.)	
August 26, 1937	Channel 35 feet deep from deep water in Narragansett Bay to Fox Point.	H. Doc. 173, 75th Cong., 1st sess.
October 18, 1965	Deepen 35-foot channel to 40 feet, and provide a 30-foot channel from the upper end of the existing project to India Point at the mouth of the Seekonk River. (The India Point channel was deauthorized in November 1986.)	S. Doc. 93, 88th Cong., 2nd sess.
	ROCKLAND HARBOR, ME (See Section 22 of Text.)	
June 14, 1880	Breakwater	
June 29, 1956	Approach channel 18 feet deep and branch channels.	S. Doc. 82, 82nd Cong., 1st sess.
November 17, 1986	Deauthorizes uncompleted portions of the 1956 Act.	Section 1002, P. L. 99-662.
	SALEM HARBOR, MA (See Section 23 of Text.)	
March 3, 1873	Channel 8 feet deep and 300 feet wide at entrance to South River, and construction of a seawall and breakwater for the protection of Long Point.	S. Ex. Doc. 25, 42nd Cong., 3rd sess.
September 19, 1890	Extends channel 6 to 8 feet deep and 50 to 150 feet wide up South River.	H. Ex. Doc. 28, 51st Cong., 1st sess.
March 3, 1905	Channel 10 feet deep and 200 to 300 feet wide at entrance to South River.	H. Doc. 303, 58th Cong., 2nd sess.
July 3, 1930	Main Ship Channel 25 feet deep and 300 feet wide, and removal of shoal near Abbot Rock Beacon.	H. Doc. 112, 70th Cong., 1st sess.
March 2, 1945	Main Ship Channel 30 feet deep.	H. Doc. 701, 76th Cong., 3rd sess.
July 3, 1958	Main Ship Channel 32 feet deep and 300 to 400 feet wide and South River Channel 8 to 10 feet deep and 50 to 300 feet wide.	H. Doc. 31, 85th Cong., 1st sess.
November 17, 1986	Deauthorizes uncompleted protions of the 1945 Act consisting of extending the 10-foot channel in the South River.	Section 1002, P. L. 99-662.
July 9, 1995	Deauthorizes uncompleted portions of the 1905 Act.	Federal Register Vol. 61, No. 244

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	SAUGUS RIVER, MA (See Section 24 of Text.)	
July 14, 1960	Entrance Channel 8 feet deep and 80 to 150 feet wide, and two anchorage areas 6 feet deep and totaling 4.3 acres	P. L. 86-645, Section 107. Authorized by the Chief of Engineers on May 15, 2000
	SEEKONK RIVER, PROVIDENCE, RI (See Section 26 of Text.)	
November 17, 1986	Removal of abandoned India Point Railroad Bridge.	Section 1166(c), P.L. 99-662.
December 18, 1991	Extends project authorization.	Section 1085, P.L. 102-240 of the Intermodal Surface Transportation Infrastructure Act of 1991.
October 12, 1996	Increases total project cost.	Section 301 (a) (13), P.L. 104-303
	SESUIT HARBOR, MA (See Section 27 of Text.)	
July 14, 1960 as amended	Channel 6 feet deep and 100 feet wide.	Section 107, P.L. 86-645 Authorized by the Chief of Engineers February 6, 1980.
	UNION RIVER, ME (See Section 28 of Text.)	
	Provides for the removal of ledge, boulders and mill waste to create a channel 3 to 4 feet deep from the mouth of the Union River to the wharves at Ellsworth; along with installing navigation beacons.	Report of District Engineer dated June 30, 1867.
June 3, 1896	Channel 6 feet deep, 100 to 1500 feet wide from the head of Union River Bay to the wharves at Ellsworth, and construction of a jetty and training wall at the mouth of Union River near Norton's Rocks. (Funds for construction of the jetty and the training wall were never appropriated and this work was subsequently omitted from the project.)	H. Doc. 138, 51st Cong., 1st sess.
	POINT BEACH, MILFORD, CT (See Section 30 of Text.)	
October 23, 1962	Project involves raising the first floor of 58 shorefront and back shore residential structures above the estimated 100 year flood elevation.	Section 103, P.L. 87-874. Authorized by the Chief of Engineers November 6, 1995.
	FAULKNER ISLAND, CT (See Section 36 of Text.)	
October 12, 1996	Construct 2,000 linear feet of stone revetment running along the entire east side of the Island and wrapping around the north and south ends.	Section 527, P.L. 104-303
	FOX POINT BARRIER, RI (See Section 37 of Text.)	
July 3, 1958	Construction of concrete hurricane barrier across Providence River at Fox Point in the City of Providence.	H. Doc. 230, 85th Cong., 1st Sess.
August 17, 1999	Directs Secretary to undertake repairs of the barrier as identified in Condition Survey and Technical Assessment dated April 1998, with Supplemental dated August 1998.	Section 352, P.L. 106-53
	HOOSIC RIVER, SYNDICATE ROAD, WILLIAMSTOWN, MA (See Section 38C of Text.)	
July 24, 1946, as amended	Construct 300 linear feet of stone slope protection along the western bank of the Hoosic River adjacent to Syndicate Road.	Section 14, P.L. 79-526. Authorized by the Chief of Engineers July 10, 2001
	NORTH NASHUA RIVER, LANCASTER, MA (See Section 39E of Text.)	
July 24, 1946, as amended	Construct 500 linear feet of stone slope protection along the streambank of the North Nashua River adjacent to Massachusetts Highway Route 70.	Section 14, P.L. 79-526. Authorized by the Chief of Engineers May 21, 1999

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	PLEASANT POINT, PERRY, ME (See Section 41 of Text.)	
July 24, 1946, as amended	Construct 800 linear feet of stone slope protection along the shoreline of Pleasant Point.	Section 14, P.L. 79-526. Authorized by the Chief of Engineers July 31, 1986
	QUONSET POINT, DAVISVILLE, RI (See Section 42 of Text.)	
October 31, 1992	Construction of two elevated water storage towers and extension, rehabilitation and relocation of 6,000 feet of sewer line.	Section 362, P.L. 102-580.
	ROUGHANS POINT, REVERE, MA (See Section 43 of Text.)	
November 17, 1986	Stabilize existing facilities along the shore with a 4,080-foot long armor stone revetment. Construct earth berm one-foot high and 200 feet long on existing median strip between Bennington Street and State Road.	Section 401, P.L. 99-662.
	SAINT JOHN RIVER BASIN, ME (See Section 44 of Text.)	
November 17, 1986	Ten-year research and demonstration program of cropland irrigation and soil conservation techniques for increasing potato yield and quality.	Section 1108, P.L. 99-662.
	TOWN BROOK, QUINCY AND BRAINTREE, MA (See Section 47 of Text.)	
November 17, 1986	Construct 12-foot diameter, 4,060-foot long, concrete lined tunnel in bedrock approximately 140 to 180 feet below ground; channel improvements downstream of the tunnel outlet; and reconstruction of Old Quincy Reservoir Dam located at the headwaters of Town Brook.	H. Doc. 39, 99th Cong., 1st sess.
	VERMONT DAMS REMEDIATION, VT (See Section 48 of Text.)	
December 11, 2000	Evaluate the structural integrity of ten priority dams in Vermont and carry out measures to modify, repair, restore or remove if the dam poses an imminent and substantial risk to public safety.	Section 543, P.L. 106-541
	LEBANON, NH (See Section 53 of Text.)	
August 17, 1999	Amends Section 219 of the Water Resources Development Act of 1992 to include a combined sewer overflow project in Lebanon, New Hampshire.	Section 502, P.L. 106-53.
November 12, 2001	Non-Federal interests shall receive credit toward the non-Federal share of the cost of the project for work performed before the date of execution of the project cooperation agreement, if the Secretary determines the work is integral to the project.	Title I, P.L. 107-66
	LONSDALE DRIVE-IN, LINCOLN, RI (See Section 54 of Text.)	
October 12, 1996	Restoration of 7 acres of open water and 7 acres of upland habitat by demolishing and excavating former drive-in.	Section 206, P. L. 104-303, Authorized by the Chief of Engineers May 3, 2002.
	NINIGRET & CROSS MILLS PONDS, CHARLESTOWN, RI (See Section 55 of Text.)	
October 12, 1996	Dredging 40 acres of tidal shoal area and planting eelgrass, dredging 3.5-acre sediment basin and construction of fish passage facilities at Ninigret Pond and Cross Mills Pond dams.	Section 206, P. L. 104-303, Authorized by the Chief of Engineers September 4, 2002.

TABLE 1-B (Continued) AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	PRESUMPSCOT RIVER (SMELT HILL), FALMOUTH, ME (See Section 56 of Text.)	
October 12, 1996	Removal of Smelt Hill Dam.	Section 206, P. L. 104-303, Authorized by the Chief of Engineers May 6, 2002.
	SAGAMORE MARSH, CAPE COD CANAL, MA (See Section 57 of Text.)	
November 17, 1986	Restoration of 50 acres of salt marsh by installing larger culverts beneath Scussett Beach and Cape Cod Canal Service Roads and excavating channels.	Section 1135, P.L. 99-662. Authorized by the Chief of Engineers September 5, 1996.

[1] A portion has been abandoned pursuant to P.L. 624, December 31, 1970.
[2] Contains latest published maps. See also Annual Report, 1911, p. 1178 (seawalls and Nixes Mate Channel) and Annual Report, 1903, p. 770 (Fort Point Channel.)
[3] Authorized in part by Public Works Administration, Sept. 6, 1933.
[4] Contains latest maps.

TABLE 1-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003		
		Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Andrews River, MA	2002	219,042	996,723	187,500
Apponaug Cove, RI	1964	156,874	57,769	104,583 [7]
Bagaduce River, ME [3,4]	1912	28,000	39	-
Bar Harbor, ME	1932	406,591	2,187	-
Bass Harbor, ME [6]	1965	188,859	49,672	-
Bass Harbor Bar, ME	1920	4,076	20,382	-
Beals Harbor, ME	1959	184,880	163,177	-
Bellamy River, NH [3,4]	1897	34,643	-	-
Beverly Harbor, MA	1951	246,048	52,827	100,000
Black Rock Harbor, CT	1988	-	1,754,293	-
Branford Harbor, CT	1990	9,537	1,975,607	-
Bucks Harbor, Machiasport, ME [6]	1976	277,420	45,692	-
Bucksport Harbor, ME	1907	18,421	22,233	-
Bullocks Point Cover, RI	1996	170,902	503,730	123,757
Bunker Harbor, ME [6]	1969	95,372	33,206	-
Buttermilk Bay Channel, MA [6]	1985	163,855	235,138	69,323
Canapitsit Channel, MA [4]	1899	9,113	12,279	-
Cape Porpoise Harbor, ME	1977	175,037	361,664	20,000
Carvers Harbor, Vinalhaven, ME	1964	190,438	39,427	-
Cathance River, ME [3]	1884	21,000	-	-
Chatham (Stage) Harbor, MA	2000	266,705	4,564,863	43,500
Clinton Harbor, CT	2000	104,957	1,465,584	-
Coasters Island Harbor, RI [4]	1911	5,500	13,161	-
Cobscook Bay, ME [3,4]	1866	4,173	-	-
Cohassett Harbor, MA	2000	267,737	1,853,042 [31]	43,500
Connecticut River below Harford, CT	2002	1,550,185 [33]	19,031,072	130,410
Corea Harbor, Gouldsboro, ME [6]	1984	797,954	113,569	-
Criehaven Harbor, ME	1997	40,776	517,617	-
Cross Rip Shoals Nantucket Sound, MA	1954	24,200	54,328	-
Cuttyhunk Harbor, MA	2000	27,168	1,749,115 [32]	11,643
Damariscotta River, ME [4]	1906	5,000	905	-
Deer Island Thoroughfare, ME [4]	1916	40,000	5,792	-
Dorchester Bay and Neponset River, MA	1968	94,584	407,424	-
Duck Island Harbor, CT	1953	482,166	412,764	-
Duxbury Harbor, MA	1997	421,297	2,430,740 [27]	35,000 [26]
Edgartown Harbor, MA	1978	65,614	62,980	10,000
Essex River, MA	1948	21,759	167,281 [8]	-
Exeter River, NH [4]	1913	62,454	56,232	-
Fall River Harbor, MA	1984	6,164,757 [9]	2,181,267	-
Falmouth Harbor, MA	1978	123,763	346,249	35,000
Fivemile River Harbor, CT	2000	35,490	1,236,321	-
Frenchboro Harbor, ME	1978	657,345	25,216	-
Georges River, ME	1978	25,788	323,814	-
Gloucester Harbor and Annisquam River, MA	2000	1,296,934	1,900,748	25,000
Great Salt Pond, Block Island, RI	2002	189,037	855,321	-
Greenwich Bay, RI	1893	2,000	3,719	-
Greenwich Harbor, CT	1969	198,758	236,072	100,000
Guilford Harbor, CT	1995	137,222	2,061,867	25,500
Hampton Harbor, NH	1996	200,000	2,297,807	193,761
Harraseeket River, ME [4]	1896	30,963	37,069	-
Hay (West Harbor), Fisher's Island, NY	1931	8,401	75,462	-
Hendrick's Harbor, ME	1957	28,204	23,025	-

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Hingham Harbor, MA	1954	28,316	177,020	-
Housatonic River, CT	1983	859,691	2,643,928	222,010
Hyannis Harbor, MA	2001	4,113,358 [24]	2,359,063 [30]	772,918
Ipswich River, MA	1969	5,618	77,034	-
Island End River, Chelsea, MA [6]	1983	311,850	11,518	192,336 [10]
Isle Au Haut Thoroughfare, ME	1980	137,653	196,686	-
Isle of Shoals Harbor, ME and NH	1977	80,691	651,644	-
Jonesport Harbor, ME	1992	7,489,073	47,428	832,119
Josias River, ME [5]	1995	621,186	444,702	79,668 [22]
Kingston Harbor (North Plymouth), MA	1895	8,940	-	-
Lagoon Pond, Martha's Vineyard, MA [6]	1976	99,098	37,386	80,990
Lamprey River, NH [4]	1913	19,980	76,723	-
Little Harbor, Woods Hole, MA [4]	1906	18,000	19,673	-
Lubec Channel, ME	1956	380,322	70,389	-
Lynn Harbor, MA	2002	755,576	799,834	-
Machias River, ME	1972	32,000	283,067	-
Malden River, MA [19]	1922	104,853	45,097	62,000
Matinicus Harbor, ME	1962	14,000 [11]	8,989	-
Medomak River, ME	1953	17,000	92,359	-
Menemsha Creek, MA	1981	56,926	750,759	12,500
Merrimack River, MA	1940	369,891	829,900	-
Mianus River, CT	1985	132,435	776,912	46,500
Milford Harbor, CT [5]	1989	90,506	1,466,702	11,380 [12]
Moosabec Bar, ME	1930	11,400	25,327	-
Mystic River, CT	1957	197,582	311,085	14,000
Mystic River, MA	1986	3,222,777	2,031,078	-
Nantucket (Harbor of Refuge), MA	1989	502,661 [13]	759,000	-
Narragansett Town Beach, RI [2, 21]	-	27,398	-	-
New Bedford and Fairhaven Harbor, MA	2001	1,857,618	795,148	20,385
New Harbor, ME [5]	1966	118,620	101,291	7,015 [14]
New Haven Breakwater, CT	1950	1,242,246	40,273	-
New London Harbor, CT	1986	638,774	2,066,900	-
Newport Harbor, RI	1953	733,524	179,078	-
Niantic Bay and Harbor, CT [6]	1972	66,464	154,703	65,139
Northeast Harbor, ME	1954	138,942	67,047	-
Owl's Head Harbor, ME [3,5]	1968	124,158	55,324	4,383
Patchogue River, CT	1998	355,445	1,392,389	-
Pawcatuck River, Little Narragansett Bay and Watch Hill Cove, RI and CT	1997	318,787	1,661,760	20,000
Pawtuxet Cove, RI	1975	295,356	351,946	295,356
Pepperell Cove, ME	1969	171,351	53,156	-
Pig Island Gut, ME [6]	1966	191,753	97,056	-
Pleasant River, ME	1892	3,500	217	-
Pollock Rip Shoals, Nantucket Sound, MA	1956	1,083,504	846,590	-
Portsmouth Harbor and Piscataqua River, NH & ME	2001	18,360,800	3,240,960	4,437,665
Potowomut River, RI	1882	5,000	50	-
Provincetown Harbor, MA [5]	1997	3,889,577	1,053,966	797,847
Richmond Harbor, ME [4]	1883	20,000	-	-
Richmond's Island Harbor, ME [4]	1882	119,844	1,808	-
Rockport Harbor, MA	1996	1,808,745	337,578	51,430
Rockport Harbor, ME [3]	1989	32,000	277,266	-
Royal River, ME [5]	1997	336,704	1,777,1555 [28]	49,562 [29]
Rye Harbor, NH	1991	130,342	755,518	61,338 [16]

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003		
		Construction	Operation and Maintenance	Contributed Funds Expended (Construction)
Saco River, ME [5]	1995	1,064,983	2,960,655	74,996
St. Croix River, ME	1950	179,550	64,685	19,892
Sakonnet Harbor, RI	2001	764,651	463,204	21,928
Sakonnet River, RI	1909	38,427	18,478	-
Sandy Bay (Harbor of Refuge), Cape Ann, MA [17]	1922	1,925,553	16,060	-
Sasanoa River, ME [3,4]	1915	35,000	124	-
Scarboro River, ME	1997	392,635	2,949,188	10,000
Searsport Harbor, ME	1966	572,568 [15]	87,270	-
Seekonk River, RI	1954	672,214	955,073	67,792
South Bristol Harbor, ME	1971	89,593	81,723	2,567
Southport Harbor, CT	1962	59,213 [18]	510,035	18,285
Southwest Harbor, ME	1962	180,042	90,085	7,501
Stamford Harbor, CT	1980	892,824	1,888,847	169,636
Stockton Harbor, ME [3,4]	1915	33,000	34,376	-
Stonington Harbor, CT	1959	377,328	157,273	-
Stonington Harbor, ME [6]	1985	898,500	38,758	-
Stony Creek, Branford, CT [6]	1995	112,487	837,897	85,176
Sullivan Falls Harbor, ME	1914	19,871	-	-
Taunton River, MA	1948	442,895	115,017	-
Tenants Harbor, ME	1920	18,750	20,854	-
Thames River, CT	1967	1,471,919	1,732,940	-
Vineyard Haven, MA	1943	27,186	28,006	-
Wareham Harbor, MA	1896	95,997	42,891	-
Warren River, RI	1890	5,000	1,300	-
Warwick Cove, RI [6]	1975	155,430	176,149	133,985 [20]
Wellfleet Harbor, MA	1995	157,634	1,951,813	32,000
Wells Harbor, ME	2002	360,973	4,341,132 [34]	212,000 [25]
Westcott Cove, CT	1978	55,960	362,248	21,000
Westport Harbor and Saugatuck River, CT	1972	19,308	281,644	-
Westport River, MA	1942	3,000	6,800	-
Weymouth Back River, MA	1944	48,740	27,353	20,000
Weymouth-Fore & Town River, MA [5]	1979 and 1983	30,194,613	1,890,621	630,133
Wickford Harbor, RI [5]	1973	233,410	218,250	49,094 [23]
Wilson Point Harbor, CT [4]	1895	54,177	-	-
Winnipesaukee Lake, NH	1952	7,500	29,870	-
Winter Harbor, ME [6]	1976	162,937	45,438	-
Winthrop Harbor, MA	1895	8,992	39,315	-
Wood Island Harbor and the Pool at Biddeford, ME [5]	1995	733,272	667,095	43,660
Woods Hole Channel, MA	1940	230,000	55,614	-
York Harbor, ME	1997	239,654	1,116,848	32,161

TABLE 1-C (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

Projects are complete unless otherwise noted.

[1] Complete except for inactive portion.
[2] Inactive.
[3] Abandonment recommended in H. Doc. 467, 69th Congress, 1st session.
[4] No commerce reported.
[5] Portion or project authorized by Chief of Engineers (Public Law 86-645, Sec. 107).
[6] Authorized by the Chief of Engineers (Public Law 86-645, Sec. 107).
[7] Construction of a public landing by local interests has not been completed.
[8] Excludes $5,000 Contributed Funds.
[9] Excludes $37,200 Contributed Funds, Other.
[10] Excludes $582,188 Contributed Funds, Other.
[11] Excludes $114,327 expended for rehabilitation; breakwater repaired in 1962.
[12] Excludes $173,425 Contributed Funds, Other.
[13] Excludes $211,649 expended for minor rehabilitation; jetty repaired in 1963.
[14] Public landing at Black Cove has not been constructed.
[15] Costs to local interests for berth improvements are estimated to be $60,000.
[16] Excludes $81,548 Contributed Funds, Other.
[17] Abandonment recommended in H. Doc. 411, 64th Congress, 1st session, and in River and Harbor Committee Doc. 3, 65th Congress, 1st session.
[18] Excludes $37,714 Emergency Relief Funds.
[19] Under State maintenance.
[20] Excludes $10,000 Contributed Funds, Other.
[21] Lack of local sponsor. (Project authorized by Section 361 of WRDA 1992.)
[22] Excludes $17,495 non-project cost for removal of mooring chains, of which the project sponsor still owes $12,198.
[23] Excludes $10,000 Contributed Funds.
[24] Excludes $129,757 expended for minor rehabilitation work.
[25] Excludes $5,000 Contributed Funds Other.
[26] Excludes $65,000 consisting of $13,000 for public wharf and $52,000 for additional construction.
[27] Excludes $571,401Contributed Funds.
[28] Excludes $20,000 Contributed Funds, Other.
[29] Excludes $18,000 Contributed Funds, Other.
[30] Excludes $476,782 Contributed Funds, Other.
[31] Excludes $83,476 Contributed Funds, Other.
[32] Excludes $50,000 Contributed Funds.
[33] Excludes $60,000 expended for major rehabilitation.
[34] Excludes $417,757 Contributed Funds, Other.

TABLE 1-D OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

Project	For Last Full Report See Annual Report For	Cost to Sep. 30, 2003 Construction	Amount Expended by Local Interest
Burial Hill Beach, Westport, CT	1958	5,810	11,612
Calf Pasture Beach Park, Norwalk, CT	1964	56,386	120,179
Clark Point Beach, New Bedford, MA [5]	1982	228,081	228,080
Cliff Walk, Newport, RI [1]	1995	1,155,491	955,237
Compo Beach, Westport, CT	1962	84,544	169,089
Cove Island, Stamford, CT	1961	47,131	94,262
Cummings Park, Stamford, CT	1963	26,886	53,771
Guilford Point Beach (Jacobs Beach), Guilford, CT	1961	15,620	31,241
Gulf Beach, Milford, CT	1958	21,303	42,606
Hammonasset Beach, Madison, CT	1956	163,183	326,366
Hampton Beach, Hampton, NH	1966	260,868	385,641
Jennings Beach, Fairfield, CT	1956	14,401	28,802
Lighthouse Point Park (Area 9), CT	1961	3,930	7,859
Middle Beach, CT	1958	8,810	17,620
Misquamicut Beach, Westerly, RI [2]	1963	14,512	29,024
North Scituate Beach, Scituate, MA	1969	106,552	106,552
Oak Bluffs Town Beach, Martha's Vineyard, MA [5]	1976	273,334	198,583
Oakland Beach, Warwick, RI	1982	559,200	181,175
Plum Island, MA [5]	1977	118,882	104,875
Prospect Beach, West Haven, CT [4]	1995	1,870,407	1,089,351
Quincy Shore Beach, Quincy, MA	1962	621,464	1,242,880
Revere Beach, MA	1994	3,889,016	2,197,312
Roosevelt Campobello International Park, Lubec, ME	1993	233,260	-
Sand Hill Cove Beach, RI	1959	40,143	82,000
Sandy Point Outfall, West Haven, CT [5]	1996	889,634	457,495
Sasco Hill Beach, Fairfield, CT	1961	23,759	47,518
Sea Bluff Beach, West Haven, CT [5]	1995	677,170	237,628
Seaside Park, CT	1958	150,000	329,921
Sherwood Island State Park, Westport, CT [4]	1983	1,186,830	889,330
Short Beach, CT [3]	1956	-	-
Silver Beach to Cedar Beach, CT	1964	62,560	270,695
Southeast Lighthouse, Block Island, RI	1995	1,648,249	970,000
Southport Beach, CT	1960	17,631	35,263
Town Beach, Plymouth, MA	1964	5,490	10,981
Wallis Sands State Beach, Rye, NH	1966	65,131	435,942
Wessagusset Beach, Weymouth, MA	1971	180,944	200,208
Winthrop Beach, MA	1960	176,567	353,134
Woodmont Beach, Milford, CT [4]	2001	2,043,765	1,089,515 [6]

Projects are completed unless otherwise noted.

[1] Complete except inactive portion.

[2] Additional Federal participation will be required based on Public Law 87-874, Sec. 103.

[3] Project completed at no cost to Federal Government by using fill from Federal navigation improvement at Housatonic River. (See page 88 of the 1956 Annual Report.)

[4] Portion authorized by Chief of Engineers (Public Law 87-874, Sec. 103.)

[5] Authorized by Chief of Engineers (Public Law 87-874, Sec. 103.)

[6] Excludes $118,215 expended for work beyond scope of project.

TABLE 1-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Contributed Funds
Alford, Green River, MA [3]	1977	41,419	-
Allendale Dam, North Providence, RI [26]	2001	109,500	-
Alley Bay, Beals, ME [3]	1979	190,500	-
Amesbury, Powwow River, MA [3]	1978	132,113	-
Ansonia - Derby, CT	1977	18,266,040	- [8]
Aroostook River, Fort Fairfield, ME	2002	4,849,991	941,580
Bagaduce River, ME [3]	1985	129,500	-
Beaver Brook, Keene, NH [2]	1989	2,591,000	-
Blackstone River, Millbury, MA [3]	1986	249,999	4,576
Bluffs Community Center, Swansea, MA [3]	1995	189,131	54,447
Bound Brook, Scituate, MA [4]	1974	47,300	-
Canton, MA [2]	1964	156,568	92,981
Charles River Dam, MA	1981	41,170,921	5,554,088 [9]
Charlestown, NH [3]	1976	113,330	-
Cherryfield, ME [2]	1963	191,095	-
Chicopee, MA	1954	1,433,600	385
Chicopee Falls, MA	1978	2,183,912	411,292 [10]
Clear River, Burrillville, RI [3]	1987	168,000	-
Cocheco River, Farmington, NH [2]	1963	183,100	-
Connecticut River, Middletown, CT [3]	1996	262,046	69,121 [23]
Connecticut River, North Stratford, NH [3]	1982	180,000	-
Connecticut River, W. Stewartstown, NH [3]	1976	54,703	-
Covered Bridge, Sheffield, MA [3]	1988	250,000	180,000
Danbury, CT	1978	13,143,000	- [11]
Derby, CT	1977	7,582,642	- [12]
East Branch Dam, CT	1973	1,959,836	-
East Hartford, CT	1951	2,135,447	7,637
Farmington River, Simsbury, CT [3]	1996	500,000	257,720 [22]
Fitchburg, MA (See No. Nashua River)	-	-	-
Folly Brook, Wethersfield, CT [2]	1979	220,284	-
Fort Kent, ME [2]	1979	1,997,820	-
Gardner, MA [2]	1970	495,691	15,000
Gulf Street, Milford, CT [3]	1991	365,000	21,000
Hall Meadow Brook Dam, CT	1970	2,572,357	-
Hartford, CT	1960	6,929,100	2,781,100
Hartford, White River, VT [2]	1973	332,236	-
Haverhill, MA	1940	1,743,485	120,000
Hayward Creek, Braintree-Quincy, MA [2]	1979	2,325,470	-
Holmes Bay, Whiting, ME [3]	1980	207,390	-
Holyoke, MA	1953	3,418,000	24,447
Housatonic River, Pittsfield, MA [2]	1985	739,003	-
Housatonic River, Salisbury, CT [3]	1982	102,800	-
Housatonic River, Sheffield, MA [3]	1981	202,608	-
Huntington, MA [3]	1960	3,900	-
Island Avenue, Quincy, MA [3]	1983	172,000	-
Islesboro (The Narrows), ME [3]	1985	165,500	-
Johnson Bay, Lubec, ME [3]	1985	163,082	-
Keene, NH [4]	1955	44,100	-
Lancaster, Israel River, NH [2]	1997	595,878	-
Lee, Housatonic River, MA [3]	1976	37,852	-
Little River, Belfast, ME [3]	1990	166,682	43,000
Lowell, MA	1945	1,284,974	-
Lower Woonsocket, RI	1977	6,600,681	1,266,638 [14]

TABLE 1-E (Continued) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Contributed Funds
Machias River, Machias, ME [3]	1987	152,000	-
Machias Bay, Machiasport, ME [3]	1995	133,473	32,733 [15]
Mad River Lake, CT	1973	4,773,020	-
Mad River, Waterbury (Woodtick Area), CT	1998	1,177,905	270,183 [13]
Marginal Way, Ogunquit, ME [3]	1987	243,000	-
Merriconeag Sound, Harpswell, ME [3]	1980	107,682	-
Mill Brook, Brownsville, VT [3]	1988	110,000	-
Narraguagus River, Milbridge, ME [3]	1995	132,967	24,893 [16]
Nashua, NH	1950	270,000 [6]	327
New London Hurricane Barrier, CT	1992	8,504,919 [7]	2,015,709 [21]
Nonewaug River, Woodbury, CT [3]	1985	222,500	-
Northampton, MA	1950	960,000	-
North Canaan, Blackberry River, CT [4]	1977	73,865	-
North Nashua River, Fitchburg, MA	1981	4,605,000	-
North Nashua River, Lancaster, MA [3]	1979	81,671	-
North Nashua River, Leominster, MA [3]	1997	152,756	50,919
North Nashua River, Leominster (Sewer Line), MA [3]	1997	221,455	73,818
Norwalk, CT [2]	1952	52,150	-
Norwich, CT	1960	1,209,000	-
Park River, Hartford, CT	1986	60,176,919	- [17]
Pawcatuck, CT	1966	644,311	214,106
Pawtuxet River, Warwick, RI [2]	1986	3,174,260	-
Penobscot River, Old Town, ME [2]	1986	178,045	-
Perley Brook, Fort Kent, ME [3]	1994	70,990	20,554 [18]
Point Shirley, Winthrop, MA [3]	1995	500,000	182,419
Port 5 Facility, Bridgeport, CT [3]	1986	227,500	-
Prestile Stream, Blaine, ME [3]	1980	73,674	-
Riverdale, West Springfield, MA [5]	1996	1,905,261	221,614 [24]
Salmon River, Colchester, CT [3]	1983	247,100	-
Sand Cove, Gouldsboro, ME [3]	1984	127,500	-
Saugus River & Tributaries, MA [1]	1997	5,525,000	-
Saxonville, MA	1980	4,218,700	- [19]
Sebago Lake, Standish, ME	1998	500,000	346,009
Sebasticook River, Hartland, ME [2]	1985	1,857,475	-
Shelburne, Androscoggin River, NH [3]	1977	37,657	-
Smelt Brook, Weymouth-Braintree, MA [2]	1978	1,803,738	-
South River, Conway, MA [3]	1987	133,500	-
Springdale, MA	1952	700,000	-
Springfield, MA	1950	932,000	5,350
Squantz Pond, New Fairfield, CT [3]	1983	116,296	-
Stony Brook, Wilton, NH [4]	1973	19,500	-
Sucker Brook Dam, CT	1976	2,227,792	58,800
Three Rivers, MA	1970	1,577,189	- [20]
Torrington, East Branch, CT [2]	1963	389,237	-
Torrington, West Branch, CT [2]	1963	228,237	-
Town River Bay, Quincy, MA [3]	1993	55,228	18,409
Village of Saxtons, VT [3]	1985	140,500	-
Ware, MA [2]	1963	400,000	-
Waterbury-Watertown, CT [2]	1963	265,300	-
Weston, VT [4]	1957	13,000	-
West Branch, Westfield River, Huntington, MA [3]	1983	119,433	-
West River, New Haven, CT [2]	1996	3,883,293	748,840 [25]

TABLE 1-E (Continued) OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Contributed Funds
West Springfield, MA [5]	1992	2,043,728	14,343
West Warren, MA [2]	1964	389,200	41,000
Winsted, CT	1954	245,500	-
Woonsocket, RI	1962	4,033,100	224,476
Worcester Diversion, MA	1978	5,086,896	70,161

Projects are complete unless otherwise noted.

[1] Inactive.
[2] Authorized by Chief of Engineers (Public Law 80-858, Sec. 205).
[3] Authorized by Chief of Engineers (Public Law 79-526, Sec. 14)
[4] Authorized by Chief of Engineers (Public Law 83-780, Sec. 208)
[5] Portion Authorized by Chief of Engineers (Public Law 80-858, Sec. 205).
[6] Excludes $147,366 Flood Control and Coastal Emergency funds expended.
[7] Excludes $852,127 non-project cost per 1976 WRDA.
[8] Excludes $727,460 Contributed Funds, Other.
[9] Excludes $1,674,567 Contributed Funds, Other.
[10] Excludes $12,000 expended for land condemnations and $25,184 Contributed Funds, Other for relocations.
[11] Excludes $1,146,828 Contributed Funds, Other.
[12] Excludes $406,653 Contributed Funds, Other.
[13] Excludes $122,452 for lands.
[14] Excludes $488,920 Contributed Funds, Other.
[15] Excludes $11,758 for lands.
[16] Excludes $6,120 for lands.
[17] Excludes $259,408 Contributed Funds, Other.
[18] Excludes $3,109 for lands.
[19] Excludes $8,503 Contributed Funds, Other.
[20] Excludes $565,168 Contributed Funds, Other.
[21] Excludes $1,629,256 for lands and $303,251 Contributed Funds, Other.
[22] Excludes $10,195 lands.
[23] Excludes $24,134 Contributed Funds, Other.
[24] Excludes $109,140 for land and $46,929 Contributed Funds, Other.
[25] Excludes $554,638 for lands and $71,650 Contributed Funds, Other.
[26] Design only, project constructed under EPA Superfund Program.

TABLE 1-F OTHER AUTHORIZED MULTI-PURPOSE PROJECTS INCLUDING POWER

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Contributed Funds
Passamaquoddy Tidal Power Project, ME [1]	1935	6,384,394	-

[1] Work discontinued in 1937. Facilities transferred to War Assets Administration.

TABLE 1-G OTHER AUTHORIZED ENVIRONMENTAL PROJECTS

Project	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Contributed Funds
Galilee Salt Marsh, RI [1]	2000	1,274,979	424,993 [2]
Naugatuck River, Torrington, CT [1]	2001	96,327	32,109

[1] Authorized by Chief of Engineers (Public Law 99-662, Sec. 1135).
[2] Excludes $836,381 Contributed Funds, Other.

TABLE 1-H DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended: Federal	Funds Expended: Contributed Funds
Alternative for Sugar Hill Reservoir	-	Aug 1977	-	-
Andover Lake, CT	-	Aug 1977	-	-
Apponaug Cove, RI (portion of 1960 Act)	1964	Aug 1999	-	-
Bagaduce River, ME (uncompleted portion)	-	Oct 1978	-	-
Baker Brook, MA	1972	Nov 1979	94,000	-
Bar Harbor, ME (uncompleted portion of 1888 & 1890 Acts)	1932	Nov 1986	-	-
Bass Harbor, ME (portions of Section 107 project)	1965	Aug 1999	-	-
Beards Brook Reservoir, NH	1949	Aug 1977	78,000	-
Beaver Brook Lake, NH	1973	Apr 1978	378,300	-
Bennington Reservoir, NH	1949	Aug 1977	205,000	-
Big River Reservoir, RI (portion of 1986 Act)	1987	Nov 1990	-	-
Black Rock Harbor, CT (uncompleted portion of 1958 Act)	1988	Nov 1986	-	-
Boothbay Harbor, ME (Portion of 1912 Act)	1953	Oct 1992	-	-
Boothbay Harbor, ME	1953	Aug 1999	18,000	-
Boston Harbor, MA (1945 Act)	2003	Jan 1990	-	-
Boston Harbor, MA (portion of 1902 Act)	2003	Oct 1992	-	-
Boston Harbor, MA (portion of Chelsea River 1962 Act)	2003	Oct 1996	-	-
Boston Harbor, MA (portion of Reserved Channel 1990 Act)	2003	Oct 1996	-	-
Brant Rock Beach, Marshfield, MA	1961	Nov 1979	-	-
Branford Harbor, CT (portion of 1902 of Act)	1990	Oct 1990	-	-
Bridgeport Harbor, CT (portions of 1958 Act)	2003	Nov 1986	-	-
Bridgeport Harbor, CT (uncompleted portion of 1930 Act)	2003	Nov 1979	-	-
Bridgeport Harbor, CT (portion of 1946 Act)	2003	Oct 1996	-	-
Bridgeport Harbor, CT (portion of 1958 Act)	2003	Oct 1996	-	-
Bridgeport Harbor, CT (portion of 1958 Act)	2003	Aug 1999		-
Bristol Harbor, RI	1987	Apr 2002	316,288	-
Brockway Lake, VT	1946	Aug 1977	-	-
Bucksport Harbor, ME (portion of 1902 Act)	1907	Aug 1999	-	-
Cambridgeport Lake, VT	-	Aug1977	-	-
Carvers Harbor, Vinalhaven, ME (portion of 1896 Act)	1964	Aug 1999	-	-
Chicopee, MA (uncompleted portion)	1954	Aug 1977	-	-
Claremont Lake, NH	1968	Dec 1970	242,700	-
Clinton Harbor, CT (portion of 1945 Act)	1985	Aug 1999	-	-
Clyde, RI	1948	Apr 1951	8,800	-
Cocheco River, NH (portion of 1890 Act)	2003	Oct 1996	-	-
Cohasset Harbor, MA (portion of 1945 Act)	2000	Oct 1996	-	-
Cohasset Harbor, MA (portion of Section 107 project)	2000	Oct 1996	-	-
Connecticut River (above Hartford), CT	1932	Jan 1990	132,146	-
Connecticut River below Hartford, CT (uncompleted portion)	2002	Oct 1978	-	-
Connecticut River below Hartford, CT (1950 Act)	2002	Nov 1986	-	-
Cotuit Harbor, MA	1962	Oct 1978	8,541	-
Dickey - Lincoln School Lakes, ME (portion of 1965 Act)	1984	Nov 1986	26,285,298	-
Dorchester Bay and Neponset River, MA (uncompleted portion)	1968	Jan 1990	-	-
East Boothbay Harbor, ME (portion of 1910 Act)	1953	Oct 1996	-	-
East Boothbay Harbor, ME	1953	Aug 1999	6,500	-
Eastport Harbor, ME	1984	Nov 1983	638,675	141,530
Edgartown Harbor, MA (uncompleted portion of 1965 Act)	1978	Nov 1986	-	-
Fall River Harbor, MA (uncompleted portion of 1930 Act)	1984	Nov 1986	-	-
Fall River Harbor, MA (1968 Act & uncompleted portion of 1930 Act)	1984	Apr 2002	-	-
Falmouth Harbor, MA (portion of 1948 Act)	1978	Oct 1996	-	-
Falmouth Harbor, MA (portion of 1948 Act)	1978	Aug 1999	-	-

TABLE 1-H (Continued) DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended: Federal	Funds Expended: Contributed Funds
Fivemile River Harbor, CT (uncompleted portion)	2000	Oct 1978	-	-
Gaysville Lake, VT	1970	Oct 1976	206,600	-
Gorton's Pond, Warwick, RI	-	Nov 1991	-	-
Great Salt Pond, Block Island, RI (uncompleted portion of 1945 Act)	2002	Nov 1986	-	-
Greenwich Harbor, CT (portion of 1919 Act)	-	Nov 1990	-	-
Greenwich Point Beach, CT	1969	Oct 1978	-	-
Green Harbor, MA (portion of Sec 107 project)	2003	Aug 1999	-	-
Guilford Harbor, CT (portion of 1945 Act)	1995	Oct 1996	-	-
Harbor of Refuge, Block Island, RI (uncompleted portion of 1912 Act)	2003	Nov 1986	-	-
Housatonic River, CT (uncompleted portion of 1888 Act)	1983	Nov 1979	-	-
Honey Hill Lake, NH	1949	Aug 1977	92,000	-
Ipswich River, MA (uncompleted portion of 1968 Act)	1969	Nov 1986	-	-
Kennebec River, ME (uncompleted portion of 1902 Act)	2003	Nov 1986	-	-
Kennebunk River, ME (portion of 1962 Act)	2003	Oct 1996	-	-
Ludlow Lake, VT	-	Aug 1977	-	-
Lynn Harbor, MA (uncompleted portions of 1954 & 1935 Acts)	2002	Nov 1986	-	-
Lynn-Nahant Beach, MA	1986	Apr 1999	50,000	-
Manchester Harbor, MA	1949	Nov 1979	23,986	-
Marblehead Harbor, MA	1968	Oct 1978	43,711	-
Mattapoisett Harbor, MA	1950	Oct 1978	-	-
Merrimack River, MA	-	Nov 1991	-	-
Mianus River, CT (portion of 1945 Act)	1985	Nov 1986	-	-
Milford Harbor, CT (uncompleted portion of 1902 & 1937 Acts)	1989	Nov 1986	-	-
Monoosnoc Brook, MA	1967	Nov 1986	-	-
Monoosnoc Lake, MA	1967	Nov 1986	-	
Mountain Brook Dam, NH	1949	Aug 1977	57,000	-
Mystic, CT	1968	Aug 1972	67,700	-
Mystic River, CT (uncompleted portion of 1913 Act)	1957	Nov 1986	-	-
Mystic River, CT (portion of 1913 Act)	1957	Oct 1996	-	-
Mystic River, MA (portion of 1950 Act)	1986	Oct 1996	-	-
Nantasket Beach, MA	1971	Jan 1990	-	-
Nantucket Harbor of Refuge, MA (uncompleted portion of 1945 Act)	1989	Nov 1986	-	-
Nantucket Harbor of Refuge, MA (uncompleted portion of 1880 Act)	1989	Jan 1990	-	-
Napatree Beach, RI	-	Nov 1979	-	-
Narragansett Pier, RI	1966	Nov 1970	115,590	-
Neponset River, Milton Town Landing to Port Norfolk, MA	-	Nov 1991	-	-
New Bedford and Fairhaven Harbors, MA (uncompleted portion of 1912 Act)	2001	Nov 1986	-	-
New Bedford and Fairhaven Harbors, MA (portion of 1909 & 1930 Acts)	2001	Aug 1999	-	-
Newburyport Harbor, MA (uncompleted portion of 1945 Act)	2003	Nov 1986	-	-
Newburyport Harbor, MA (portion of 1910 Act)	2003	Oct 1992	-	-
Newport Harbor, RI (portion of 1907 Act)	1953	Nov 1999	-	-
New Haven Harbor, CT (uncompleted portion of 1946 & 1910 Acts)	2003	Nov 1986	-	-
New Haven Harbor, CT (1986 Act)	2003	Apr 2002	-	-
Nookagee Lake, MA	1976	Nov 1986	563,677	-
North Andover and Lawrence, MA	1949	Aug 1977	20,000	-
North Hampton Beach, North Hampton, NH	1963	Nov 1981	-	-
Norwalk Harbor, CT (portion of 1919 Act)	2003	Oct 1996	-	-

TABLE 1-H (Continued) DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date Deauthorized	Funds Expended: Federal	Funds Expended: Contributed Funds
Norwalk-Wilton, CT	1973	Nov 1979	-	-
Patchoque River, Westbrook, CT (portion of 1954 Act)	1997	Oct 1996	-	-
Pawcatuck River, Little Narragansett Bay, RI & CT (uncompleted portions of 1896 Act)	1997	Nov 1986	-	-
Pawcatuck River, Little Narragansett Bay, RI and CT (1960 Act)	1997	Nov 1979	-	-
Pawtucket, RI	1949	Nov 1977	-	-
Pepperell Cove, ME (uncompleted portion)	1969	Nov 1981	-	-
Phillips Lake, MA	1982	May 1997	300,000	-
Pleasant Bay, MA	1971	Nov 1986	-	-
Point Judith, RI	1968	Nov 1977	198,477	-
Pontiac Diversion, RI	1948	Apr 1951	24,200	-
Providence River and Harbor, RI (uncompleted portion)	2003	Nov 1986	-	-
Provincetown Beach (Herring Cove), MA	1961	Oct 1978	-	-
Provincetown Harbor, MA (uncompleted portion)	1997	Oct 1978	-	-
Rockland Harbor, ME (uncompleted portion of 1956 Act)	2003	Nov 1986	-	-
Saco River, ME (uncompleted portion)	1995	Oct 1979	-	-
Sakonnet Harbor, RI (uncompleted portion)	2001	Jun 1982	176,000	-
Salem Harbor, MA (inactive portion of 1905 Act)	2003	Jul 1995	-	-
Salem Harbor, MA (uncompleted portion of 1945 Act)	2003	Nov 1986	-	-
Sandy Bay, Cape Ann, MA (uncompleted portion)	1922	Oct 1978	-	-
Searsport Harbor, ME (portion of 1962 Act)	1966	Aug 1999	-	-
Silver Beach to Cedar Beach, CT (uncompleted portion of 1954 Act)	1964	Nov 1986	-	-
South Coventry Lake, CT	1951	Aug 1977	96,000	-
Southport Harbor, CT (portion of 1935 Act)	1962	Oct 1996	-	-
South Tunbridge Lake, VT	-	Aug 1977	-	-
Stamford Harbor, CT (2 projects uncompleted portions)	1980	Oct 1978	-	-
Stamford Harbor, CT (inactive portion)	1980	Jan 1990	-	-
Stonington Harbor, CT (uncompleted portion of 1950 Act)	1959	Nov 1986	-	-
Stonington Harbor, ME (1960 Act)	1985	Nov 1979	2,543	-
Stony Creek, CT (portion of 1960 Act)	1995	Oct 1996	-	-
Stratford, CT	1973	Mar 1977	934,500	-
Sugar Hill Reservoir, NH	1946	Dec 1944	-	-
Taunton River, MA (inactive portion)	1948	Jan 1990	-	-
Thames River, CT (uncompleted portion of 1945 Act)	1967	Nov 1986	-	-
The Island Lake, VT	-	Aug 1977	-	-
Thumperton Beach, Eastham, MA	1961	Nov 1979	-	-
Town Beach, Plymouth, MA (inactive portion)	1964	Jan 1990	-	-
Town Neck Beach, Sandwich, MA (portion of 1960 Act)	1961	Nov 1986	-	-
Trumbull Lake, CT	1983	May 1997	1,498,800	-
Victory Lake, VT	1967	Aug 1977	168,400	-
Wareham Harbor, MA (inactive portion)	1896	Jan 1990	-	
Wareham-Marion, MA	1965	Aug 1977	81,715	-
Wells Harbor, ME (portion of 1960 Act)	2002	Aug 1999	-	-
West Brookfield Reservoir, MA	1965	Aug 1977	67,000	-
West Canaan Lake, NH	1948	Aug 1977	92,000	-
Westerly, RI	1966	Nov 1986	-	-
Westfield, MA	1967	Sep 1969	507,200	-
Westport, CT	1965	Feb 1970	29,634	-
Westport Harbor and Saugatuck River, CT (uncompleted portion of 1892 & 1954 Acts)	1972	Nov 1979	-	-
Westport River, MA (1938 Act)	1942	Jan 1990	-	-
Weymouth-Fore and Town Rivers, MA (portion of 1965 Act)	1979 & 1983	Oct 1996	-	-
Whitmanville Lake, MA	1979	Jul 1995	605,023	-

TABLE 1-I NAVIGATION ACTIVITIES PURSUANT TO SECTION 107, PUBLIC LAW 86-645 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Bass Harbor, Tremont, ME	-	-
Blackwater River, NH	2,648	-
Bucks Harbor, Machiasport, ME	40,494	-
Coordination	10,409	-
Charlestown Breachway & Ninigret Pond, Charlestown, RI	26,806	-
East Boat Basin, Sandwich, MA	30,277	-
Ipswich River, Ipswich, MA	23,903	-
Lubec Harbor, ME	18,290	-
Oaks Bluff Harbor, Martha's Vineyard, MA	42,068	-
Thames Rivers, CT	18,206	-
Westport, MA	18,118	-

TABLE 1-J MITIGATION OF FEDERAL NAVIGATION PROJECTS PURSUANT TO SECTION 111, PUBLIC LAW 90-483 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Camp Ellis, Saco, ME	336,161	-
Wells Harbor, Wells, ME	6,184	-

TABLE 1-K BEACH EROSION ACTIVITIES PURSUANT TO SECTION 103, PUBLIC LAW 87-874 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Morris Cove, New Haven, CT	235	-
Nantasket Beach, Hull, MA	-	6,397
North Nantasket Beach, Hull, MA	43	975

TABLE 1-L FLOOD CONTROL ACTIVITIES PURSUANT TO SECTION 205 PUBLIC LAW 80-858 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expend
Aberjona River, Winchester, MA	83,447	57,506
Black Rocks Creek, Salisbury, MA	31,714	18,483
Coordination	14,950	-
Farm River, East Haven, CT	16,338	24,422
Harbor Brook, Meriden, CT	28,186	48,141
Pocasset River, Cranston and Johnston, RI	947	-
Salmon River, Haddam & East Haddam, CT	237	18,189

TABLE 1-M EMERGENCY BANK PROTECTION ACTIVITIES PURSUANT TO SECTION 14, PUBLIC LAW 79-526 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Coordination	11,827	-
Holmes Bay, Route 191, Whiting, ME	75,413	-
Merrimack River, Riverside Road, Haverhill, MA	-	-
Mill River, Federal Street, Northhampton, MA	78,563	-
Narraguagus River, Millbridge, ME	77,394	-
Penobscot River, Brewer, ME	33,090	-
Westfield River, Agawam, MA	38,778	-
White River, Hancock, VT	6,768	-

TABLE 1-N ENVIRONMENTAL IMPROVEMENT ACTIVITIES PURSUANT TO SECTION 1135, PUBLIC LAW 99-662 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Allin’s Cove, Barrington, RI	46,509	-
Broad Meadows Marsh Restoration, MA	41,760	-
Boyd's Marsh (Town Pond), RI	59,957	-
Coordination Account	15,405	-
Half-moon Cove, Perry, ME	9,638	-
Hough’s Neck Salt Marsh, Quincy, MA	8,923	-
Mill River, Northhampton, MA	179	-
NMLC, Buzzards Bay, MA	73,793	-
North Nashua River, Fitchburg, MA	20,716	-

TABLE 1-O AQUATIC ECOSYSTEM RESTORATION ACTIVITIES PURSUANT TO SECTION 206, PUBLIC LAW 99-662 (PREAUTHORIZATION)

Study Identification	Fiscal Year Costs	Contributed Funds Expended
Bass River Salt Marsh Restoration, Yarmouth, MA	118	-
Bird Island Restoration, Marion, MA	8,798	-
Brush Neck Cove, Warwick, RI	-	-
Coordination	25,777	-
Hix Bridge Salt Marsh Restoration, Westport, MA	8,792	-
Lawrence Gateway, MA	-	-
Manham Dam, Easthampton, MA	42,755	-
Milford Pond, Milford, MA	28,833	-
Mill Pond, Littleton, MA	45,525	-
Mill Pond Restoration, Nashua, NH	143,328	-
Mill River, Stamford, CT	74,639	-
Narrows River, Narragansett, RI	2,748	-
Nashawannuck Pond, Easthampton, MA	57,993	-
Neponset River, Boston, MA	49,601	-
Osgood Pond Restoration, Milford, NH	55,128	-
Pleasant River Salt Marsh Restoration, Addison, ME	8,961	-
Reedy Meadow Marsh Restoration, Saugus, MA	1,321	-
Round Hill Beach Salt Marsh, Dartmouth, MA	7,606	-
Run Pond Coastal Ecosystem Restoration, MA	7,969	-
Sandy River (Madison Dam), Madison, ME	8,625	-
Scarborough Marsh, Scarborough, ME	132,780	-
Steward's Creek, Barnstable, MA	81,278	-
Wiswall Dam, Durham, NH	147,389	-

TABLE 1-P BLACKSTONE RIVER BASIN, MA AND RI (See Section 33 of Text) RESERVOIR

Name	Nearest City	Miles Above Mouth of Blackstone River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [1]	Estimated Federal Cost: Total
West Hill [2]	Worcester,MA	25.8	51	Earthfill	12,400	$1,366,922	$940,000	$2,306,902

[1] Includes highway, railroad, and utility relocations.
[2] See individual report for details.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [1]	Estimated Cost: Total
Worcester, MA	48	Diversion tunnel and channel	$4,923,500	$1,179,000 [2]	$6,102,500
Woonsocket, RI	15	Channel improvement	3,733,100	1,069,000 [3]	4,802,100
Lower Woonsocket, RI	13	Flood wall, conduits and channel improvement	8,356,239	435,000	8,791,239
Blackstone River, Millbury, MA	32	Slope protection	256,619	-	256,619 [5]
Clear River, Burrillville, RI	23	Retaining wall	168,000	-	168,000
Pawtuxet River, Warwick, RI	-	Land acquisition	4,125,000	-	4,125,000 [4]

[1] Includes relocation.
[2] $158,000 Federal; $1,021,000 non-Federal.
[3] $300,000 Federal; $769,000 non-Federal.
[4] $3,300,000 Federal; $825,000 non-Federal.
[5] $250,000 Federal; $6,619 non-Federal.

TABLE 1-Q CONNECTICUT RIVER BASIN, VT, NH, MA AND CT
(See Section 35 of Text)
DAMS AND RESERVOIRS

Name	Nearest City	Miles Above Mouth of Connecticut River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages[1]	Estimated Federal Cost: Total
Vermont:								
Union Village [2]	White River Jct.	228.4	170	Earthfill	38,000	$3,186,860	$ 908,300	$4,095,160
North Hartland [2]	White River Jct.	211.7	185	Earthfill	71,400	6,349,225	963,000	7,312,225
North Springfield [2]	Springfield	191.3	120	Earthfill	50,600	4,781,526	2,050,000	6,831,526
Ball Mountain [2]	Brattleboro	178.2	265	Rockfill-earth	54,600	10,757,842	350,000	11,107,842
Townshend [2]	Brattleboro	168.3	133	Earthfill	33,200	6,662,545	1,878,000	8,540,545
New Hampshire:								
Surry Mountain [2]	Keene	174.4	86	Earthfill	32,500	2,448,610	385,000	2,833,610
Otter Brook [2]	Keene	171.2	133	Earthfill	18,300	2,982,048	1,378,400	4,360,448
Massachusetts:								
Birch Hill [2]	Gardner	153.3	56	Earthfill	49,900	1,740,679	3,075,000	4,815,679
Tully [2]	Athol	148.7	62	Earthfill	22,000	1,298,752	368,000	1,666,752
Barre Falls [2]	Worcester	130.2	62	Rockfill-earth	24,000	1,928,819	39,000	1,967,819
Knightville [2]	Northampton	102.8	160	Earthfill	49,000	2,594,440	821,200	3,415,640
Littleville [2]	Northampton	102.0	150	Earthfill	32,400	5,863,412	1,150,000	7,013,412
Conant Brook [2]	Springfield	122.0	85	Rockfill-earth	3,740	1,935,530	1,015,000	2,950,530
Connecticut:								
Colebrook River [2]	Winsted	116.0	223	Rockfill-earth	98,500	8,341,971	5,922,000	14,263,971
Mad River	Winsted	120.0	178	Earthfill	9,700	4,773,020	2,210,000 [4]	6,983,020
Sucker Brook	Winsted	118.5	68	Earthfill	1,480	2,227,792	180,000 [3]	2,407,792

[1] Includes highway, railroad, and utility relocations.
[2] For details, see individual report.
[3] Non-Federal cost.
[4] Non-Federal $670,000; Federal $1,540,000.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages[1]	Estimated Cost: Total
Beaver Brook, Keene, NH	170.4	Channel improvement	$ 2,591,000	-	$ 2,591,000
Charlestown, NH	181	Riverbank protection	113,330	-	113,330
Chicopee, MA	80	Wall and levee	1,434,000	$ 250,000	1,684,000
Chicopee Falls, MA	83	Wall and levee	2,600,000	70,000	2,670,000

TABLE 1-Q (Continued)

CONNECTICUT RIVER BASIN, VT, NH, MA AND CT
(See Section 35 of Text)
DAMS AND RESERVOIRS

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Connecticut River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages[1]	Estimated Cost: Total
Connecticut River, Middletown, CT	31	Streambank protection	331,167 [6]	-	331,167
East Hartford, CT	52	Wall and levee	2,143,084	271,000	2,414,084
Farmington River, Simsbury, CT	60	Streambank protection	757,720	10,195	767,915
Folly Brook, Wethersfield, CT	50	Channel improvement	220,284	-	220,284
Gardner, MA	163	Dam and levee	510,691	35,000	545,691
Gulf Street, Milford, CT	-	Slope protection	386,000	-	386,000
Hartford, CT	52	Wall and levee	9,710,200 [4]	1,150,000	10,860,200
Hartford, White River, VT	216	Channel improvement	332,236	-	332,236
Holyoke, MA	85	Wall and levee	3,442,447	150,000	3,592,447
Huntington, MA	100	Riverbank protection	3,900	-	3,900
Israel R., Lancaster, NH	314	Gabion overflow weir	551,606	-	551,606
Keene, NH	167	Channel improvement	44,146	-	44,146
Mill Brook, Brownsville, VT	200.3	Streambank stabilization	110,000	-	110,000
Northampton, MA	94	Wall and levee	960,000 [5]	150,000	1,110,000
North Stratford, NH	345	Slope protection	180,000	-	180,000
Park River, CT	51	Conduit	58,876,919	1,300,000	60,176,919
Riverdale, MA	80	Wall and levee	2,126,875 [7]	109,140	2,236,015
Salmon R., Colchester, CT	38	Slope protection	247,100	-	247,100
South River, Conway, MA	107	Slope protection	133,500	-	133,500
Springdale, MA	84	Wall and levee	700,000	57,000	757,000
Springfield, MA	76	Wall and levee	937,350 [2]	272,000	1,209,350
Three Rivers, MA	98	Wall and levee	1,577,189	700,000	2,277,189
Ware, MA	110	Channel improvement	400,000	85,000	485,000
Weston, VT	195	Channel improvement	13,079	2,000	15,079
West Springfield, MA	76	Wall and levee	2,043,452 [3]	30,000	2,073,452
West Warren, MA	111	Wall and levee	430,176	64,000	494,176
Winsted, CT	115	Channel improvement	245,500	30,000	275,500

[1] To be borne by local interests. Also includes local interests portion of relocation.
[2] Includes $355,000 Public Works Administration funds.
[3] Includes $245,000 Public Works Administration funds.
[4] Includes $835,000 Public Works Administration funds.
[5] Includes $280,000 Public Works Administration funds.
[6] Excludes $24,134 Contributed Funds, Other.
[7] Excludes $46,929 Contributed Funds, Other.

TABLE 1-R HOUSATONIC RIVER BASIN, CT AND MA
(See Section 38 of Text)
DAMS AND RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Naugatuck River	Height (feet)	Height Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [2]	Estimated Federal Cost: Total
Hall Meadow	Torrington, CT	41.0	73	Rock and earthfill	8,620	$2,572,357	$1,290,000 [3]	$3,862,357
East Branch	Torrington, CT	43.7	92	Earthfill	4,350	1,959,836	1,290,000 [3]	3,249,836
Thomaston	Torrington, CT	30.5	142	Rock and earthfill	42,000	6,382,112	7,900,000	14,282,112
Northfield Brook	Torrington, CT	30.6	118	Earthfill	2,432	1,875,512	975,000	2,850,512
Black Rock	Waterbury, CT	29.0	154	Earthfill	8,700	5,223,700	2,958,600	8,182,300
Hancock Brook	Waterbury, CT	25.0	57	Earthfill	4,030	1,593,911	2,585,000	4,178,911
Hop Brook	Waterbury, CT	15.9	97	Earthfill	6,970	2,701,562	3,450,000	6,151,562

[1] For details of projects, see individual reports.
[2] Includes highway, railroad, and utility relocations.
[3] Includes cost of lands borne by local interests.

LOCAL PROTECTION PROJECTS [1]

Location	Miles Above Mouth of Housatonic River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [2]	Estimated Cost: Total
Alford, Green River, MA	111.0	Earth dike and stone slope protection	$41,419	-	$ 41,419
Ansonia-Derby, CT	13.0	Wall, levee, channel improvement and pumping station	18,266,040	1,178,000	19,444,040
Covered Bridge, Sheffield, MA	96.0	Stone slope protection	430,000	-	430,000
Danbury, CT	56.0	Walls, channel improvement and bridge replacement	13,143,000	1,862,000	15,005,000
Derby, CT	12.0	Walls, levees and pumping Station	7,582,642	647,000	8,229,642
Hoosic River, Williamstown, MA	155.0	Stone slope protection	380,000	40,000	420,000
Mad River, Waterbury (Woodtick Area), CT	35.0	Channel improvements	1,448,087	122,452	1,570,539
North Canaan, Blackberry River, CT	83.0	Snagging and clearing project	73,865	-	73,865
Pittsfield, MA	133.0	Stone arch culvert	739,003	85,000	824,003
Salisbury, CT	76.0	Gabionade with slope protection	102,800	-	102,800
Sheffield, MA	96.0	Stone slope protection	202,608	-	202,608
Squantz Pond, New Fairfield, CT	43.0	Timber Bulkhead	116,296	-	116,296
Torrington, East Branch, CT	51.0	Dike and channel improvement	389,237	-	389,237
Torrington, West Branch, CT	52.0	Walls, dikes and channel	228,237	-	228,237
Waterbury- Watertown, CT	32.0	Wall, dike and channel	263,300	-	263,300

[1] For details of projects, see individual reports.
[2] To be borne by local interests. Includes relocations.

TABLE 1-S MERRIMACK RIVER BASIN, NH, AND MA
(See Section 39 of Text)
RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Merrimack River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost: Construction	Estimated Federal Cost: Lands and Damages [2]	Estimated Federal Cost: Total
Franklin Falls	Franklin, NH	118.2	140	Earthfill	154,000	$ 6,190,487	$ 1,760,000	$ 7,950,487
Blackwater	Concord, NH	118.8	75	Earthfill	46,000	766,746	553,000	1,319,746
Hopkinton-Everett	Concord, NH	87.3	115	Earthfill	157,300	12,715,440	8,737,000	21,452,440
Edward MacDowell	Keene, NH	161.3	67	Earthfill	12,800	1,708,253	306,000	2,014,253

[1] For details, see individual report.
[2] Includes highway, railroad, and utility relocations.

LOCAL PROTECTION PROJECTS [1]

Location	Miles Above Mouth of Merrimack River	Type of Structure	Estimated Cost: Construction	Estimated Cost: Lands and Damages [2]	Estimated Cost: Total
Amesbury, Powwow and Merrimack Rivers, MA	3.0	Wall and revetment	$ 132,113	$ -	$ 132,113
Haverhill, MA	21.0	Floodwall, conduit and pumping station	1,863,485	-	1,863,485
Lowell, MA	39.0	Wall and levee	490,600 [5]	90,000	580,600
Nashua, NH	55.0	Wall and levee	270,000	3,000	273,000 [4]
North Nashua River, Lancaster, MA	90.0	Stone slope protection	81,671	-	81,671
North Nashua River, Lancaster, MA	90.0	Stone slope protection	368,848	-	368,848
North Nashua River, Leominster, MA	94.0	Stone slope protection	203,675	-	203,675
North Nashua River, Leominster (Sewer Line), MA	94.0	Stone slope protection	295,273	-	295,273
North Nashua River, MA	100.5	Channel improvement	3,235,000 [3]	-	3,235,000
Saxonville, MA	69.0	Wall, levee, channel	4,218,700	530,000	4,748,700

[1] For details, see individual report.
[2] To be borne by local interests.
[3] Excludes $1,370,000 Public Works Administration Funds expended on Fitchburg, MA.
[4] Excludes $15,000 expended from Contributed Funds.
[5] Excludes $794,374 Public Works Administration Funds.

TABLE 1-T THAMES RIVER BASIN, CT, RI AND MA
(See Section 46 of Text)
RESERVOIRS [1]

Name	Nearest City	Miles Above Mouth of Thames River	Height (feet)	Type	Reservoir Capacity (acre-feet)	Estimated Federal Cost		
						Construction	Lands and Damages [2]	Total
Hodges Village	Webster, MA	74.5	55	Earthfill	13,000	$1,317,268	$3,144,000	$4,461,268
Buffumville	Webster, MA	74.4	66	Earthfill	12,700	2,157,603	841,000	2,998,603
East Brimfield	Southbridge, MA	82.8	55	Earthfill	30,000	1,337,043	5,720,000	7,057,043
Westville	Southbridge, MA	75.2	80	Earthfill	11,000	2,284,683	3,400,000	5,684,683
West Thompson	Putman, CT	59.3	70	Earthfill	25,600	5,036,220	1,965,000	7,001,220
Mansfield Hollow	Willimantic, CT	40.0	70	Earthfill	52,000	4,107,164	2,340,000	6,447,164

[1] For details, see individual report.
[2] Includes highway, railroad, and utility relocations.

LOCAL PROTECTION PROJECTS

Location	Miles Above Mouth of Thames River	Type of Structure	Estimated Cost		
			Construction	Lands and Damages [1]	Total
Norwich, CT	15.0	Channel improvements	$1,209,000	$72,000	$1,281,000
West River, New Haven, CT	-	Channel improvements	4,619,543 [2]	554,638	5,174,181

[1] Borne by local interests.
[2] Excludes $12,590 for revisions to flood insurance rate map and $71,650 Contributed funds not required.

TABLE 1-U RECONNAISSANCE AND CONDITION SURVEYS

Project	Date Survey Conducted
MASSACHUSETTS	
Andrews River	Mar/May 2003
Annisquam River	Oct 02/Feb-Apr 2003
Aunt Lydia's Cove	Feb-Mar/Aug-Sep 2003
Boston Harbor	Oct 02/Jan/Mar 2003
Chelsea River	Dec 02/Apr 2003
Cohasset Harbor	Dec 02/Jan 2003
Cuttyhunk Harbor	May/Sep 2003
Duxbury Harbor	May 2003
Fall River	Jul 2003
Falmouth Harbor	Mar/Jul-Aug 2003
Green Harbor	Oct-Nov 2002
Hyannis Harbor	Nov 02/Jul-Sep 2003
Island End River	Mar 2003
Mystic River	Oct-Dec 02/Jun-Jul 2003
Newburyport Harbor	Jul 2003
Salem Harbor	Oct 02/Jul 2003
Sesuit Harbor	Mar/May 2003
Taunton River	Sep 2003
Wellfleet Harbor	Dec 2002
CONNECTICUT	
Black Rock Harbor	Jan-Mar/Jun/Aug-Sep 2003
Branford Harbor	Oct-Dec 02/Jan 2003
Bridgeport Harbor	Dec 02/Jan-Apr/Jul/Sep 2003
Clinton Harbor	Dec 02/May/Aug-Sep 2003
Connecticut River Below Hartford	Oct-Dec 02/Jan-May/Jul/Sep 2003
Guilford Harbor	Oct/Dec 2002
Mianus River	Aug 2003
Milford Harbor	Oct 02/Jan-Feb 2003
Mystic River	Oct-Dec 02/Jun-Jul 2003
New Haven Harbor	Oct-Dec 02/Feb/Jul-Sep 2003
New London Harbor	Oct 02/Jun/Sep 2003
Patchogue River	Jul-Sep 2003
Southport Harbor	Jan-Feb/Jun-Aug 2003
Stamford Harbor	Jan-Mar 2003
Stony Creek	Jan-Mar/Jun 2003
Thames River	Jun-Jul/Sep 2003

Project	Date Survey Conducted
MAINE	
Boothbay Harbor	Aug 2003
Bucks Harbor	Nov 2002
Corea Harbor	Apr/Jun-Aug 2003
Harraseeket River	Jun 2003
Kennebec River	Dec 02/Sep 2003
Kennbunk River	Dec 02/Jan 2003
Lubec Channel	Nov-Dec 2002
Machias River	Apr/Jul 2003
Narraguagus River	Jan-Mar 2003
New Harbor	Jul-Apr 2003
Northeast Harbor	Apr-May 2003
Penobscot River	May/Sep 2003
Portland Harbor	Nov 02/Jan-Mar/May 2003
Rockland Harbor	Mar/Sep 2003
Rockport Harbor	Aug-Sep 2003
Scarboro River	Mar 2003
Stonington Harbor	Jul-Aug 2003
Union River	Feb/Apr-Jul 2003
Wells Harbor	May/Jul-Sep 2003
Winter Harbor	Apr 2003
Woods Island Harbor	Dec 2002
NEW HAMPSHIRE	
Cocheco River	Jan/Jul-Aug 2003
Hampton Harbor	Nov 02/Jul-Sep 2003
Lamprey River	Dec 2002
Little Harbor	Oct/Dec 2002
Portsmouth Harbor & Piscataqua River	Oct 02/Feb/May/Jul-Aug 2003
RHODE ISLAND	
Block Island (Great Salt Pond)	Feb-Mar 2003
Block Island Harbor of Refuge	Nov 02/Feb-Mar/Sep 2003
Bristol Harbor	Feb 2003
Bullocks Point Cove	Dec 02/Jan-Feb/Sep 2003
Little Narraganset Bay	Oct-Dec 02/Aug 2003
Pawcatuck River	Feb-Mar 2003
Pawtuxet Cove	Nov 02/Jan-Apr 2003
Point Judith Harbor of Refuge	Mar/Aug-Sep 2003
Providence River & Harbor	Mar 2003
Sakonnet Harbor	Sep 2003
Sakonnet River	Aug 2003
Seekonk River	Mar/Sep 2003
Warwick Cove	Aug-Sep 2003
Wickford Harbor	Jun/Aug-Sep 2003

TABLE 1-U (Continued) RECONNAISSANCE AND CONDITION SURVEYS

Dredged Material Management Program

Major activities for fiscal year 2003 were (1) monitoring surveys at the Cape Cod Bay, Tupper Ledge, Rockland, Central Long Island Sound, and historic West island disposal sites and (2) maintenance, replacement, and repositioning of disposal site buoys. Seven monitoring study reports were completed and distributed to the public and regional resource agencies. Total cost of contracts was $787,000. Labor costs of $290,000 for program management, sampling and testing, and environmental analysis were incurred.

Long Island Sound

New England and New York Districts have an ongoing responsibility for maintenance of the 55 existing Federal Navigation Projects in Long Island Sound and adjacent waters. Work this FY consisted of continued investigations and preparations of a draft Environmental Impact Statement for designation of open water disposal sites in the central and western basins of Long Island Sound. Work was conducted for and in cooperation with the Environmental Protection Agency in response to the inclusion of Long Island Sound waters under the regulatory framework of the Ocean Dumping Act. The draft EIS, released in September 2003, recommends designation of disposal sites for long-term use by 40 or more Federal navigation projects in the New England and New York Districts on the central and western shores of Long Island Sound in Connecticut and New York. Work in the next fiscal year will include preparation of a final EIS for the western central regions of the Sound and initiation of studies for potential site designations in the eastern region of the Sound. Hired labor costs included $104,313 for project management, $189,267 for District review and input to the draft EIS, $6,668 for contract administration. Costs of $7,486 were incurred for public involvement. Contract costs of $1,325,027 were incurred for studies and preparation of the draft EIS. A deobligation from the prior fiscal year's contract resulted in a credit of $192.

Rhode Island Long-Term Disposal

At the request of the State of Rhode Island, the New England District is working in partnership with the US Environmental Protection Agency to evaluate the feasibility of designating a long-term dredged material disposal site in the Rhode Island Region. Designation of a permanent disposal site will assist the New England District in maintaining the 25 federal navigation projects in Rhode Island and southeastern Massachusetts. Work this FY consisted of continuing the site designation investigation. A total of $1,434,949 was expended on a continuing contract to collect field data, initiate screening of alternatives, conduct public workshops and continue EIS documentation efforts. In-house efforts included $23,890 for economic analysis, $66,955 for environmental work, and $98,882 for public involvement, project coordination and management.

NEW YORK, NY DISTRICT

This District comprises western Vermont, small portions of western Massachusetts and Connecticut, eastern New York including Long Island, and northeastern New Jersey, embraced in the drainage basins tributary to Lake Champlain and St. Lawrence River system east thereof and to the Atlantic Ocean from New York – Connecticut State Line to, but not including Manasquan Inlet, NJ. In addition it exercises jurisdiction over matters pertaining to improvement of Great Lakes to Hudson River waterway. Under the direction of the Secretary of Army, the District Engineer, as Supervisor of New York Harbor, also exercises jurisdiction under the laws enacted for the preservation of the tidal waters of New York Harbor, its adjacent or tributary waters, and the waters of Long Island Sound.

IMPROVEMENTS

General Investigations **Page**

Tables **Page**

Navigation

1. AQUATIC PLANT CONTROL

Location. Navigable waters, tributary streams, connecting channels, and other allied waters in New York District.

Existing Project. Provides for control and progressive eradication of water chestnut. Eurasian water milfoil, and other obnoxious aquatic plant growths from the navigable waters, tributary streams, connecting channels, and other allied waters of the United States, in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health and related purposes, including continued research for development of the most effective and economic control measures. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Local interests were required to provide 30 percent of the cost of the program except as modified by 1962 River and Harbor Act and agree to hold the United Sates free from damages. The Water Resources Development Act of 1986 changed the local responsibility from 30% to 50%. In FY 87 the States involved in the program were permitted to keep the cost sharing at 30% by order of the Secretary of the Army. Starting FY 88, However, Local sponsors contributed 50% of the costs. The FY 2003 APC Project Cooperation Agreement was executed in June 2003.

Operations and results during period. The purpose of the control program, started in FY 1982, is for the removal of nuisance aquatic plants in the Lake Champlain Basin, Vermont. Recent work continued the removal of water chestnut and Eurasian milfoil from portions of the basin.

Condition as of September 30. Reconnaissance report covering the aquatic plant problems of the North Atlantic Division areas was complete in August 1967. The General Design Memorandum for this program was completed in March 1982 by the State of Vermont. The total Federal cost of this control program to date is $3,637,857 in FY 2003, the New York District did cost-share a FY 2003 program with the State Vermont, as Federal funds were available. In October 1991, Waterways Experiment Station was directed to conduct a multi-year study which would identify and test potential biocontrol agents of water chestnuts. No successful biocontrol agents of water chestnut were identified. FY 2003 funds in the amount of $400,000 was used
by New York District to continue the Aquatic Plant Control Program with the State of Vermont.

2. ARTHUR KILL CHANNEL, HOWLAND HOOK MARINE TERMINAL, NY & NJ

Location. The project includes the Arthur Kill Channel from its confluence with the Kill Van Kull and Newark Bay Channels westerly for about 2.2 miles to the Howland Hook Marine Terminal in Staten Island, NY, and thence southwesterly for about 1.1 miles to the Tosco Oil Refining Company and GATX facilities in NJ and NY, respectively. (See National Ocean Survey Chart 12333.)

Existing Project. Deepening the existing 35 foot Arthur Kill channel to 41 feet MLW from its confluence with the Kill Van Kull and Newark Bay Channels to the Howland Hook Marine Terminal in Staten Island. New York and to 40 feet MLW from Howland Hook Marine Terminal to the Tosco Oil Refining Company and GATX facilities in NJ and NY, respectively. Also included are selected widenings and realignments of the channel, as well as the removal of the U.S. dike north of Shooters Island. Project also provides for mitigation consisting of restoration and enhancement of approximately 23 acres of intertidal salt march. The current estimate of the total project cost at Oct.03P.L.S, and inflated to the midpoint of construction, is $393,495,000 of which the Federal cost is estimated at $252,385,000 and the non-Federal cost is estimated at $141,110,000.

Local Cooperation. The Port Authority of New York and New Jersey is the non-Federal sponsor for the project, A Project Cooperation Agreement (PCA) for the project was executed on 25 July 2002.

Terminal Facilities. See Port Series No.5

Operations and results during period, and conditions as of Sept. 30. The existing Arthur Kill Channel has a channel depth of 35 feet MLW. The current project, will deepen the channel from its confluence with the Kill Van Kull and Newark Bay Channels to Howland Hook Marine Terminal to 41 feet MLW, and from Howland Hook Marine Terminal to the Tosco Oil Refining Comp[any and GATX facilities to 40 feet MLW. The first construction contract was awarded on 9 May 2003, and work was initiated on 20 July 2003. The cost of the construction contract awarded, including the base bid and options, was in the amount of $41,444,250. Approximately 188,000 cubic yards of silt material was dredged in FY 03. The first contract is ongoing, and is estimated to be completed in 2004. The second construction contract is scheduled for a bid opening in March 2004.

3. BURLINGTON HARBOR, VT.

Location. About 100 acres in extent, is in a half-moon-shaped indentation in eastern shore of Lake Champlain, about 40 statute miles south of international boundary line, 70 statute miles north of southern end or head of lake, and 20 statute miles southeast of harbor at Plattsburg, N.Y. (See Lake Survey Chart 172.)

Existing project. A breakwater 6,000 feet long about 1,000 feet from shore and practically parallel with it, to be built of stone-filled timber cribs capped with large stone or concrete. Completed breakwater is in two sections, northerly 500 feet being separated from southerly 5,500 feet by a gap 200 feet wide for purpose of safety in entering harbor during storms. Reference plane of low lake level is 93 feet above mean sea level. Level of lake has varied from 0.6 foot below up to 8.8 feet above low lake level. Usual annual variation is 5.8 feet. New work for completed project cost $706,414.

Terminal facilities. Bulkhead shore front and open pile and solid filled piers having a total dockage of 6,520 feet. Of the terminals, 5 wharves, 2 piers, and 1 ferry slip are in use. Five terminals have railroad connections. Facilities are considered adequate for present needs of commerce.

Local cooperation. None required.

Operations and results during the period. A continuing contract to perform repairs to the midsection of the breakwater was awarded to MCM Marine, Inc. on 17 June 2002. Total operations and maintenance funds in the amount of $706,856 was expended during FY 2003 to complete the contract for breakwater repairs including engineering, and design during construction, supervision and administration, and construction activities.

.

Condition as of September 30. Existing project was practically completed in 1890; part of breakwater originally proposed was not built, the work completed being considered sufficient for needs of navigation. Breakwater was built in two section.

4. EAST RIVER,NY

Location. A tidal strait about 16 miles long and 600 to 4,000 feet wide, connecting Hudson River and the Upper Bay at the Battery, New York City, with Long Island Sound at Throgs Neck, New York City,
and separating Long Island from Manhattan Island and the mainland. (See National Ocean Survey Chart 12335,12339 , and 12366.)

Previous Project. For details see page 210 of Annual Report for 1932.

Existing Project. Channels of following dimensions(depths refer to mean low water): From deep water in Upper New York Bay to Wallabout Channel, 40 feet deep and 1,000 feet wide: from Wallabout Channel to Throgs Neck, 35 feet deep, with widths varying from about 550 to 1,000 feet according to locality: east of F.D. Roosevelt Island up to English Place(43d Dr.), Long Island City, 30 feet deep and varying in width from 500 to 900 feet, with widening in approach from main channel: between South Brother and Berrian Island, 20 feet and 300 feet wide , with widening in approach from main channel :from East River channel to Astoria waterfront, a flared 0.31 mile entrance channel 1,600 to 400 feet wide, a 0.64 mile channel 400 feet wide, and a turning basin 1,000 feet wide and 1,600 feet long, all 37 feet deep in rock and 35 feet in soft material(South Brother Island Channel):removal of Coenties Reef to a depth of 40 feet, also removal of following rocks and reefs lying outside of limiting lines of main channels to give access to wharves: Along Brooklyn shore, Brooklyn Bridge to Manhattan Bridge(Fulton Ferry Reef) , to a depth of 25 feet: Jay Street Reef , 25 feet; Corlears Reef, 35 feet ; Shell Reef , 25 feet; Horns Hook , 40 feet: Rhinelander Reef, 26 feet; and reef off Oak Point, 30 feet; and construction of a dike in Pot Cove in Hell Gate .Section included in improvement is about 17.8 miles long. Mean range of tide varies according to locality from 4 feet at North Third Street, Brooklyn, and 4.4 feet at the Battery to 4.9 feet at Hallets Point, 6.3 feet at Port Morris, and 7.1 feet at eastern entrance at Throgs Neck; mean range of spring tides 4.8,5.3,5.9,7.6 and 8.5 feet respectively; irregular fluctuations due to wind and atmospheric pressure vary according to locality from 3.8 feet below mean low water at the Battery, 2.4 feet at North Third Street, Brooklyn, and 3.8 feet at Throgs Neck up to about 5.2 feet above mean high water at the Battery and 8.4 feet above mean high water at Throgs Neck; extreme fluctuations do not seriously affect navigations.

Local Cooperation. Resolutions of 1970 require local interests to furnish lands, easements and rights-of-way for construction and maintenance; hold the United States free from damages; provide and maintain depths in berthing areas and local access channels serving the terminals commensurate with project depth; provide upon transfer to the United States, a depth in the existing South Brother Island Channel and turning basin of not less than 30 feet; and establish regulations prohibiting discharge of untreated sewage, garbage, and other pollutants in the waters of the harbor, which shall be in accordance with regulations of Federal State and local authorities responsible for pollution control. Assurances of local cooperation were furnished by the Port Authority of

New York and New Jersey under the date of April 9,1974.

Terminal Facilities. See Port Series No. 5. revised 1988. Vol. 2.

Operations and results during the period. A contract for the removal and disposal of all material except ledge rock lying above the plane of 35 feet below mean low water in specified areas of South Brother Island Channel, East River, NY was awarded 25 April 2002 to Great Lakes Dredge & Dock Company. Approximately 245,700 cubic yards of material was removed and placed in the ocean as remediation material. The dredging was completed in June 2002.. Operations and maintenance funds in the amount of $1,727,374.75 was expended during FY 2002. Operations and maintenance funds in the amount of $61,999.73 was expended during FY 2003 for closeout of the above contract.

Conditions as of September 30. Work under existing project was commenced June 1916 and was essentially completed. Construction of dike at Pot Cove in Hell Gate and a part widening near pierhead line in Jay Street Reef are considered unnecessary for the needs of current navigation.

5. EAST ROCKAWAY INLET, NY

Location. On the south shore of Long Island between main body of island and western end of Long Beach. It is 10 miles east of Rockaway Inlet and about 27 miles by water south and east from the Battery, New York City. (See National Ocean Survey Chart 12353.)

Existing Project. A channel 12 feet deep at mean low water and 250 feet wide from 12 foot contour in Long Beach Channel protected by a jetty. Mean tidal range, 4.3 feet: mean range of spring tides. 5.2 feet above mean high water. New work for completed project cost $603,969, including $100,000 contributed funds. (See Table 2-B for Authorization Legislation.)

Local Cooperation. Complied with

Terminal Facilities. There are numerous terminals in Oceanside, Island Park, Long Beach, and East Rockaway, including oil terminals. Other terminals are repair and mooring docks with mechanical handling facilities. There are public wharves at East Rockaway and Woodmere. Waterfront on north side of Long Beach has bulkheaded. Facilities are considered adequate for existing commerce.

Operations and results during the period. A combined maintenance dredging and beach nourishment continuing contract for East Rockaway Inlet/Rockaway Beach was awarded on September 23, 2002 to Great Lakes Dock & Dredge Co. The Maintenance dredging phase of the project involved the dredging of 141,000 cubic yards of material from East Rockaway Inlet federal navigation channel with placement at Rockaway Beach. Dredging was completed during the 1st quarter of FY 2003. Operations and Maintenance funds in the amount of $1,621,845.82 was expended on this project during FY 2003.

Conditions as of September 30. A continuing contract was awarded to Great Lakes Dock & Dredge Co in September 2002. The work began on 10 November 2002 and finished on 9 December 2002. After dredge surveys revealed that the 141,000 cubic yards were removed from the Inlet by hopper dredge and pumped directly on the beach to offset the recent and ongoing erosion.

6. FIRE ISLAND TO JONES INLET, NY

Location. On south shore of Long Island, about 50 miles by water south and east of Battery, New York City. Fire Island Inlet is the main entrance into Great South Bay from the Atlantic Ocean. (See National Ocean Survey Chart 12352.)

Existing Project. A jetty at Fire Island Inlet extending generally southwest and south for 5,000 feet from high ground on Democrat Point at the west end of Fire Island and a channel 14 feet deep and 450 feet wide along the northern edge of the Inlet's shoaling area connecting the ocean to the deep water in the Inlet. Mean tidal ranges at the ocean and inlet ends of Democrat Point are 4.1 feet and 2.4 feet respectively. Irregular fluctuations due to wind and atmospheric pressure vary from 2.5 feet below mean low water up to 6.2 feet above mean high water on the ocean side. (See Table 2-B for Authorizing Legislation.)

Local Cooperation. Requires cost sharing and lands, easements and rights-of-way.

Terminal Facilities. Great South Bay has extensive public and private facilities for mooring and servicing recreational boats. Much of this traffic uses the inlet during the boating season and some traffic (Coast Guard craft and party head fishing boats) continues throughout the year.

Operations and results during the period. The sixth scheduled nourishment cycle was awarded on 25 September 2003. The maintenance dredging and beach nourishment project involves the dredging of Fire Island Inlet Channel and deposition basin with placement of 925,000 cubic yards of sand as nourishment along the designated feeder beach (Gilgo). In addition, the project also involves an option for beach placement at Robert Moses State Park. Approximately 925,000 cubic yards of sand was dredged and placed as nourishment along Gilgo

Beach Shoreline, a direct contract cost(cost shared) of $8,297,000. In addition 175,000 cubic yards of dredged sand is expected to be placed as nourishment along Robert Moses State Park Beach, at a direct contract cost (100%State) of $1,431,250.Operations and maintenance funds in the amount of $292,958.61 was expended on this project during FY 2003.

Condition as of September 30. The jetty completed in 1941 surpassed its capacity as a sand entrapping agent in a little over a decade. Since the extensive sand bars and shoals continued to form west of the jetty and in the inlet throat. Hydraulic dredging in the inlet was undertaken in 1959 and again in 1969 under a combined beach erosion control and navigation authorization (1958 Act). Since then 3 more hydraulic dredging operations were conducted starting 1973 and completed in 1977 under provision of the 1962 Act (See Table 2B). Maintenance dredging using a small hopper dredges has also been done from time to time. Due to local concerns about inlet dredging and consequent erosion at Oak Beach maintenance had been deferred since 1979 which allowed the complete shoaling of the authorized project channel. To facilitate the navigation in this period the existing natural channel was dredged in FY 1985 and in FY 1987. In FY 1987 sand was deposited offshore of Gilgo Beach by hopperdredge using operations and maintenance funds. O&M funds were also used during FY 1987 and 1988 to make repairs to the inner portion of the jetty.In March 1988 the District recommended to plan to maintain a realigned channel in the vicinity of the natural channel to a depth of 14 feet (plus 2 feet of allowable overdepth) and a width of 450 feet. The plan also recommended placement of the dredged material along Gilgo Beach for shore protection purposes. The recommended plan was approved by the Assistant Secretary of the Army for Civil Works on 2 August 1988.Since FY 1990, the realigned channel was dredged to project every two years with placement of material along Gilgo Beach for shore protection purpose.

7. FLUSHING BAY & CREEK, NY

Location. On the north shore of Long Island, the project channel flows from Flushing Bay of Queens, NY and merges with East River near LaGuardia Airport.

Existing Project. A bay channel with a depth of 15 feet for a width of 300 feet, from deep water in the East River to the maneuvering area, a distance of 1.8 miles; a creek channel with a depth of 15 feet, for a width of 200 feet to Northern Boulevard Bridge from which point, the decreases uniformly to 170 feet at a point 50 feet downstream of the Van Wyck Expressway Bridge , a distance of 1.1 miles; a branch channel with a depth of 15 feet for a width of 200 feet, from the bay channel to the maneuvering area , a distance of about 0.1 miles; an irregularly shaped maneuvering area 15 feet deep except the approach to the west side of the municipal boat basin which remains at 12 feet; an anchorage basin about 100 feet by 1,800 feet encompassing about 84 acres with a depth of 6 feet; and riprap revetment of 1,400 feet extension of earth dike.

Local Cooperation. Fully Complied with in that local interests have dredged berthing spaces and have provided waterfront terminals, parking facilities, and municipal boat basin. Projects included enlarged marina facilities, filling of marginal areas, bank protection, promenades, and additional parking facilities.. Construction of the World's Fair complex and the Municipal Stadium, adjacent to the bay, was completed in 1964. Additionally, local interests must furnish all lands, easements and rights-of-way required for construction and subsequent maintenance of the project; hold the United States free from damages; provide without costs to the United States adequate approach channels and berths and modify existing facilities; accomplish without costs to the United States removal or relocation of pipelines, cable or other utilities; provide and maintain necessary mooring facilities and utilities for recreational boating; regulate the use, growth and free development of the waterway facilities with the understanding that said facilities will be open to all on equal terms. Local interests are not required to provide spoil-disposal areas because at the time of authorization, it was determined that it is least costly to use clamshell dredge with disposal in Long Island Sound.

Terminal Facilities. See Port Series No. 5. revised 1999.

Operations and results during the period. A contract was awarded to Bean Stuyvesant Dredging Company, LLC for the dredging and placement of approximately 45,000 cubic yards of material from the creek portion of the project. Dredging was completed during the 4th Quarter of FY 2003. Total operations and maintenance funds in the amount of $4,335,057.25 were expended for this work during FY 2003.

Condition as of September 30. Work under the existing project commenced in April of 1963 and is 100 percent complete. Project channel was completed in March of 1964.

8. GLEN COVE, NY

Location. A narrow tidal inlet extending eastwardly about 1 mile from east side of Hempstead Harbor on the north shore of Long Island, 26 miles northeast of the

Battery, New York City. (See National Ocean Survey Chart 12366).

Existing Project. Provides for a channel 100 feet wide and 8 feet deep at mean low from deep water in Hempstead Harbor about 1 mile to the head of navigation at city of Glen Cove. Mean tidal range, 7.5 feet; mean range of spring tides, 8.7 feet; irregular fluctuations due to wind and barometric pressure vary from 3.6 feet below mean low water up to 8.4 feet above mean high water. New work for completed project cost $29,760, exclusive of $29,774 expended from contributed funds. Widening to 100 feet the upper 1,630 feet of channel where it crosses to foregoing description and cost estimate. Existing project adopted by 1925 River and Harbor Act (H. Doc.207, 68th Cong., 1st sess.). Latest published map is in project document.

Local cooperation. River and Harbor Act of March 3, 1925 provides that local interests pay one-half of first cost of the work, provided rights-of-way, spoil disposal areas, and bulkheads, and give assurances that adequate terminals will be built. Complied with as to contribution of one-half of first cost of work done to date, ceding of rights-of-way, provision of disposal areas, and the construction of terminals. Pending construction of bulkheads by local interests along southerly section of channel in the upper 1,600 feet of the improvement, a channel of less than project width has been evacuated. In a letter dated February 4, 1948, the Commissioner, Department of Public Works, City of Glen Cove, was notified of the conditions affecting the remaining work. There is no indication as to when compliance with these conditions may be expected.

Terminal Facilities. There are 1,875 feet of bulkheads along northerly side of waterway. Terminals are adequate for present needs and there is ample waterfront, both public and private, for additional terminals as needs arise.

Operations and results during the period. The outer portion of the channel was maintained in FY 1997. Maintenance dredging of the remaining portion of the creek was awarded to Bullard Lindsay Contracting on 30 August 2000. The basic work under the contract included the dredging with upland placement of approximately 35,000 cubic yards of material. Options within the contract allowed for the removal of up to 15,000 additional cubic yards of material based on the available capacity of the upland site. Mobilization and disposal site preparation commenced on 19 Sept 2000; and dredging started on 18 October 2000. On November 10th, the contractor informed the Corps that a large amount of debris and pilings were encountered and concluded that it was increasingly non-productive to try to finish the project hydraulically. Subsequently, the contract was modified to use an excavator dredge. Dredging resumed in late February 2001 and was suspended again in April 2001 due to the discovery of an oil layer sediment in the creek and radiation in dredged
material at the upland dewatering site in May 2001. A stop work order was issued and radiological contamination signs were posted. The work site was immediately secured by the Corps and EPA.The maintenance dredging contract with Bullard-Lindsay was subsequently terminated in February 2002 for the convenience of the Government under the "Termination for the Convenience of the Government" contract clause. The radiological contaminated dredged material in the dewatering site was disposed of by USEPA. In July 2002, the contractor submitted a Request for Equitable Adjustment(REA) on differing site conditions and costs for Termination for Convenience (T4C), which is being audited by DCAA. The Corps has suspended the navigational dredging of Glen Cove Creek pending resolution of the radioactive material issue , indicating that environmental (rather than navigational) dredging may be required in the creek. Authority for such dredging is presently not available. USEPA has initiated an assessment to determine if the environmental dredging could be undertaken with CERCLA remedial funds. Operations and maintenance funds in the amount of $1,572,002.41 were expended on Glen Cove Creek during FY 2002. Ongoing discussions with EPA and contractor negotiations have led to expenditures in the amount of $174,844.01 during FY 2003.

Conditions as of September 30. Entire existing project is about 55 percent complete. Work under the active portion of existing project was commenced on August 1933 and completed August 1934. The work done provided a channel 100 feet wide from deep water in Hempstead Harbor for 3,470 feet, thence gradually decreasing to 50 feet wide for 180 feet, and 50 feet wide for about 1,450 feet to the head of the improvement. Head of navigation is at City of Glen Cove, about 1 mile above the mouth. Work remaining to complete existing project consists of widening to 100 feet the upper 1,630 feet of channel and building a sand fence along the north side of channel where it crosses the beach. The Glen Cove Creek maintenance dredging project consists of the removal of total, 45,000 c.y. of sediment from the creek with the placement of the dredged material an upland site for dewatering and temporary storage. The dredged material would be removed later by the City of Glen Cove for beneficial use, if feasible, and/or final disposal at an approved upland site.

9. GREAT KILLS HARBOR, NY

Location. Great Kills is a small harbor contiguous to lower New York Bay, located on the southeasterly shore of Staten Island NY, about 8 miles northwest of Sandy Hook, NJ and 16 ½ miles southwest of the Battery, New York City.(See U.S. Coast and Geodetic Survey Chart No. 369)

Existing projects. This provides for an entrance channel 10 feet wide and 150 feet wide from water in lower New York Bay through the entrance to the harbor in the vicinity of the present westerly end of Crooks Island, thence of same depth and width along the west side of the harbor and anchorage area of 138 acres and 8 foot depth. The length of the section included in the project is about 1.9 miles. The mean range of tide is 4.7 feet , mean range of spring tides, 5.6 feet; irregular fluctuations due to wind and barometric pressure vary from 3.9 feet below mean low water up to 5.2 feet above mean high water.

Local cooperation. Fully complied with except that local interests are required to furnish suitable spoil-disposal areas for maintenance.

Terminal facilities. No terminals suitable for commercial purposes have been established. There are 11 small piers used for mooring and landing purposes. Six commercial boatyards and one public terminal are located at Great Kills. The terminals are considered adequate for present needs.

Operations and results during period. A continuing contract for maintenance dredging was awarded to Wickberg Marine Contracting Inc. on 3 September 2002 for maintenance dredging of the outer (entrance) channel to Great Kills Harbor for removal of all material except ledge rock lying above the plane of 10 feet below mean low water with placement of dredged material on the nearby beaches at Great Kills Park New York. Approximately 130,000 cubic yards of material will be removed. The dredging was completed in May 2003. Operations and maintenance funds in the amount of $1,120,000 was expended maintenance dredging in FY 2002.
Operations and maintenance funds in the amount of $434,751.27 was expended in FY 2003 to complete contract dredging.

Government plant and hired labor were employed through the fiscal year performing project condition surveys at a total cost including supervision and administration, of $204,178 during FY 2001.

Conditions as of September 30. Work under existing project was commenced in December 1934 and completed in September 1934. Under a permit issued by the Secretary of the Army, the city of New York dredged a portion of the anchorage and channel along the west side of the harbor in order to obtain fill for park improvement purposes. When examined intermittently

10. GREAT SOUTH BAY, NY

Location. The waterway is located in Great South Bay, Long Island, New York where the 19-mile channel extends from Robert Moses Bridge Island Inlet to the head of navigation of Patchogue River, between Fire Island National Seashore and Long Island

Existing projects. The channel is 10 feet wide from Fire Island Inlet to the Central Basin in Great South Bay opposite Patchogue River, thence 100 feet wide to mile 18.9 in the Patchogue River with a turning basin at the upper end at a depth of 11 feet, thence 8 feet deep to the upstream limit of the project.

Local cooperation. As authorized in the Rivers and Harbors Act of 13 June 1902, and modified in 1970, local interests provide dewatering/disposal areas.

Terminal facilities. This waterway is an integral and essential component of the sheltered water route along the Atlantic Coast. There is considerable US Coast Guard, commercial and charter fishing and National Park Service ferry traffic on this waterway. During peak seasons there is extensive use of this project by pleasure craft.

Operations and results during period. Preliminary engineering and design work (E&D) was performed during this period. This effort included substantial environmental coordination for the Patchogue River portion of this channel. Total operations and maintenance funds in the amount of $70,000 were expended for this work during FY 2003.

Conditions as of September 30. Shoaling continues in the Great South Bay which was last dredged in 1992/93. The quantity of dredged material was 120,000 cubic yards at a cost of $1,194,039. The dredging cycle is approximately every eight to ten years. In the Patchogue River, additional shoaling has caused maneuvering difficulty in the River. In 1968, approximately 60,000 cubic yards were dredged and disposed at an upland site.

11. HUDSON RIVER, NY

Location. Originates in Adirondack Mountains, about 250 miles in a direct line and 315 miles along its course from the Battery, New York City, and flows generally southerly into New York Bay-Section under improvement extends from New York City about 156 miles to Waterford. (See National Ocean Survey Charts 12335, 12341, 12343, 12347, 12348, and 14786.)

Previous project. For details see Annual Reports for 1915 and 1938, pages 164 and 226, respectively.

Existing projects. A channel 600 feet wide from New York City to Kingston, and thence 400 feet wide to Albany, with widening at bends, a turning basin 700 feet wide and 1,200 feet long at Albany, and 2 anchorages, 1 near Hudson and 1 near Stuyvesant, each 400 feet wide and an average length of 2,400 feet; all with depth of 32 feet in soft material and 34 feet in rock to 2,200 feet south of the Mall Bridge; thence 27 feet deep and 400 feet wide to 900 feet south of Mall Bridge, thence 14 feet deep at lower low water and generally 400 feet wide to Federal lock at Troy; and thence of same depth and 200 feet wide to southern limit of State barge canal at Waterford; and removal of State dam at Troy and construction of a lock and dam about 2.5 miles below Waterford. Channel is to be formed by dredging and rock excavation, and maintained by dredging and constructing new and raising and repairing old, longitudinal dikes, built partly under previous projects and partly by the State of NY.

In the tidal section below the Federal dam at Troy, the assumed lowest low water plane downstream to Albany is 3 feet below mean sea level. Mean tidal range is about 5 feet below the dam and about 4.9 feet at Albany. The normal pool level above the dam from Troy to Waterford is 14.3 feet above mean sea level, with the mean range of pool level in seasons of moderate rains being 2.2 feet. (See Table 2-C for features of lock and dam included in existing project.) New work for completed project cost $39,050,019 exclusive of amounts of expended on previous projects. Widening to form harbors at Albany and Troy, NY, to 12 feet deep at a cost of $522,000 (1954) and completion of 27 foot channel at Albany at a cost of $642,000 (1957) was placed in deferred for restudy category, and has since been deauthorized. All three features of work are excluded from foregoing description of existing project and cost estimate. Construction of mooring facilities has been authorized (See Table 2-B for Authorizing Legislation.)

Local cooperation. Complied with except that local interests must furnish suitable soil disposal areas for future maintenance as required.

Terminal facilities. See Port Series No.6

Operations and results during period. A continuing contract for maintenance dredging of approximately 171,000 cubic yards of material was awarded to B+B Dredging Company on 22 September 2003 to restore project dimensions in the Hudson to Germantown reaches. FY 03 funds were used to perform engineering and design, supervision and administration and dredging activities to initiate work on continuing contract. Operations and maintenance funds in the amount of $ 1,013,479 was expended for maintenance dredging activities in FY 2003.

A continuing contract for maintenance repairs to Troy Lock and Dam was awarded to Structural Associates, Inc. on 14 September 2002.Operations and maintenance funds in the amount of $1,729,901 were expended for engineering and design during construction, supervision and administration and contract repair work during FY 2003.

Government plant and hired labor were employed through the fiscal year performing project condition surveys at a total cost including supervision and administration, of $289,052 during FY 2003.

Government plant and hired labor were employed through the fiscal year in the removal of snags and other obstructions which constituted a potential hazard to navigation at a total cost of $441,386 during FY 2003.

Government plant and hired labor were employed through the fiscal year performing operation and maintenance of the Troy Lock and Dam and associated buildings and grounds. Total funds in the amount of $1,049,941 were expended during FY 2003 for operation and maintenance of the Troy Lock and Dam and associated buildings and grounds including supervision and administration.

Condition as of September 30. Work under existing project began in July 1910 and was substantially completed in November 1965. New lock and dam at Troy, removal of dam at Troy and construction of 15,545 linear feet of dikes also are complete. In reconstruction of old dikes 39,676 linear feet are raised to adopted crest height. Channel from New York City to Albany is complete to a depth of 32 feet except for the 1,500 linear foot section at the northern end of the 32 foot project which has never been dredged to project depth. Channel from Albany to Waterford is complete to a depth of 14 feet.

12. HUDSON RIVER AT ATHENS, NY

Location. Athens, New York is along the west bank of the Hudson River approximately 116 miles above the Battery, New York City and approximately 29 miles downstream of Albany, New York. (See Geological Survey, Hudson North, NY quadrangle).

Existing project. No constructed project has ever been done in Athens. The main Hudson River navigation channel runs along the east bank of the Hudson River, Hudson, New York opposite Middle Ground Flats. The proposed project for Athens consists of the design and construction of a 300 foot wide channel to a depth of 24 feet (mean low water) extending from the existing Federal in the vicinity of the Hudson City Light to the north dock at Union Street in Athens. The project was authorized in

Section 110 of the September 1996 Energy and Water Appropriations Act. Preliminary surveys, geologic, and sediment chemical tests have been carried out. A preliminary channel alignment has been prepared with accompanying dredge quantities. The preliminary cost is $21,500,000 with additional cost needed for improvements at the existing terminal docks. The Design Agreement and Project Management Plan have been completed and were approved to by the non-Federal sponsor, Green County Industrial Development Agency.

Local cooperation. The non-Federal sponsor has signed the Design Agreement and provided the 25% cost share of the design, studies can be initiated. If the project is found to be viable, then another non-Federal sponsor would cost share in the construction.

Operation and results during the period, and condition as of Sept. 30. Preliminary studies have been completed and the engineering design and environmental assessment activities have been initiated.

13. JAMAICA BAY, NY

Location. Inside south shore of Long Island, the entrance being about 17 miles by water south and east of the Battery, New York City. (See National Ocean Survey Chart No.12350).

Previous projects. For details see page 1770 of Annual Report for 1915, and page 185 of Annual Report for 1938
.

Existing Project. Provides for an interior channel extending from vicinity of Marine Parkway Bridge along west and north shores of the bay, 18 feet deep at mean low water and 300 feet wide to Mill Basin, with a swinging basin, 1,000 feet wide and 1,000 feet
long at the point – thence 12 feet deep and 200 feet wide to Fresh Creek Basin; and interior channel extending from the same locality along south shore to Head of Bay, 15 feet deep and 200 feet wide, a channel in Mott Basin, 15 feet deep and 200 feet wide extending from the channel along the south shore, 3,000 feet to junction of the two branches, thence 200 feet in north branch (Inwood Creek) and 3,200 feet in south branch; and an entrance channel connecting the two interior channels with deep water in Atlantic Ocean, of suitable hydraulic dimensions to maintain present tidal prism in the bay, but not less than 18 feet deep and 500 feet wide from opposite Barren Island to Rockaway Point, Thence enlarging to not less than 20 feet deep and 1,000 feet wide to the sea, protected by one riprap jetty. Length of section included in project is 19.7 miles. Mean tidal range, 4.9 feet at Barren Island, and 5.1 feet at Head of Bay; mean range of spring tides, 5.9 and 6.1 feet, respectively; irregular fluctuations due to wind and atmospheric pressure vary from 4 feet below mean low water to 4.9 feet above mean high water.

Cost for new work for completed project is $4,466,421 (July 1961), excluding amounts expended on previous projects.

Legal cooperation. River and Harbor Act of 1945 provides that in lieu of conditions heretofore prescribed local interest furnish suitable areas for disposal of dredge materials for new work and subsequent maintenance, and hold the United States free from damages. City of New York was notified of conditions of local cooperation in letter dated January 15, 1946. In letter dated February 7, 1946, the Mayor of New York advised disposal areas are available and necessary document holding the United States free from claims for damages" would be executed.

River and Harbor Act of 1950 provides local interests furnish lands, easements, rights-of-way, and suitable areas for disposal of dredged material during construction and subsequent maintenance, hold the United States free from damages and perform all necessary alterations to existing terminals and bulkheads, and dredge adequate approaches thereto. These conditions have been fulfilled.

Terminal facilities. See Port Series No.5.

Operations and results during the period. A continuing contract was awarded to Great Lakes Dredge & Dock Company on 26 September 2002 for maintenance dredging of the Outer Entrance Channel of Jamaica Bay for removal of all material except ledge rock lying above the plane of 20 feet below mean low water with placement of the dredged material on the nearby bay beaches at Breezy Point,
New York. Approximately 386,000 cubic yards of sand was removed. The dredging was completed in March 2003. Operation and maintenance funds in the amount of $2,145,241 were expended on this project during FY 2003.

Conditions as of September 30. Work under existing project was commenced in August 1912 and completed in June 1961. Westerly interior channel from Barren Island to Fresh Creek Basin and swinging basin at Mill Basin were completed in April 1929. Southerly interior channel and channel in Mott Basin, including its two branches were completed in

14. JONES INLET, NY

Location. The project is located in the Town of Hempstead, Nassau County, NY between Atlantic Ocean and Hempstead Bay. It extends from outside of the jetty to the Loop Causeway Bridge over Long Creek.

Existing projects. The project provides for an east jetty and a channel 12' deep, 250' wide from deep water in Atlantic Ocean to Loop Causeway Bridge. The length of the section is 2.3 miles. The mean range of tide is 3.9 feet, mean range of spring tides is 4.7 feet, irregular fluctuations due to wind and barometric pressure vary from 3.9 feet below mean low water up to 11.6 feet above mean high water.

Local cooperation. Fully complied with except that local interests are to pay 35% of the difference of the cost for placement of dredged material from the inlet on the beach if that is not the least cost placement site.

Terminal facilities. No terminals suitable for commercial purposes have been established. There are small piers used for mooring and landing purposes. Approximately 11 commercial boatyards are located in channel adjacent to Jones Inlet. The terminals are considered adequate for present needs.

Operations and results during period. Total operations and maintenance funds in the amount of $61,326.31 were expended for engineering and design activities during FY 2003.

Conditions as of September 30. Work under existing project commenced in 1956 and was completed in 1957.

15. KILL VAN KULL – NEWARK BAYCHANNEL, NJ & NY

Location. The project includes Kill Van Kull connecting upper New York Bay with Newark Bay, and channels in lower Newark Bay serving Port Newark and Elizabeth Marine Terminal. These terminals are located on the west shore of Newark Bay. (See national Ocean Survey Chart 12333.)

Existing project. Deepening the existing Kill Van Kull channel and channels in lower Newark Bay, including turning and maneuvering areas, as well as deepening the Elizabeth and Port Newark channels. The deepening to be done from the existing 35 foot depth incrementally to 40 feet and then 45 feet. The Federal cost of construction is estimated at $582,500,000 with an additional $436,600,000 to be contributed by local interests.

Local cooperation. The Port Authority of New York and New Jersey, the local cooperating agency, has entered into a local cooperation agreement with the Government which was executed on 30 May 1986. A supplemental agreement was executed on 21 May 1987, for Phase I. A new project cooperating agreement will be entered into on 30 January 1999 for Phase II (40 feet to 45 feet).

Terminal facilities. See Port Series No. 5, Vol. 2.

Operations and results during period, and condition as of Sept. 30. Stage 1, channel deepening to 40 feet in seven contracts was substantially completed. Contract No. 1, awarded in June 1987, is completed. Contract No.2 was awarded in July 1988 and is completed. Contract No.3 was awarded in Sept. 1988 and is completed. Removal of rock and hard material in the Kill Van Kull and Newark Bay

was divided in three contracts 4A, 4B, and 4C. Contract 4A was awarded in April 1991 and was completed in Sept. 1995. Contract No. 5 was awarded in May 1988 and is complete. Contract 4C was awarded in Sept. 1994 and was completed in July 1995. Stage 2, channel deepening to 45 feet has commenced with start of work on a Limited Re-evaluation Report, which was approved Oct., 1997. First construction contract for Area 2 was awarded 16 March 1999, May.1999 and was completed September 2000. The second construction control for Area 1 was awarded 4 Aug. 1999 and completed July 2001. The third construction control for Area 4A was awarded 28 Feb. 2000 and was completed Feb. 2002. The fourth construction control for Area 7 was awarded 12 March 2001 and was completed August 2002. Area 5 was awarded December 2001 and scheduled to be completed August 2004.The sixth contract for Area 3 was awarded August 2001 and was completed October 2002.The seventh contract Area 6 was awarded July 2002 and has a completion date of September 2003. The eight contract Area 8 was awarded on May 2003 with a schedule completion date of August 2004.

16. LAKE MONTAUK HARBOR, NY

Location. On east end of Long Island, about 3 miles by land west of Montauk Point and 125 miles by water east of New York City. It is land-locked on the east sides and is connected to the north with Block Island sound by an artificial inlet.

Existing projects. A channel 12 feet deep, at MLW and 150 feet wide, extending from the 12 foot contour in Block Island Sound to the same depth in the existing yacht basin east of Star Island; a boat basin 10 feet deep, 400 feet wide and 900 feet long, located northwest of Star Island; repair and extension shoreward of the east and west jetties; and additional sport fishing facilities on top of both jetties. Length is
Approximately 0.7 miles.

Local cooperation. The Rivers and Harbors Act of 2 March 1945, House Document No. 369, 76th Congress, 1st Session provides that local interests must furnish, free of

cost to the United States all lands,, easements, rights of way and spoil-disposal areas for the initial work and subsequent maintenance as required and hold and save the United States free from damages due to the construction works and subsequent maintenance. Local cooperation has been complied with.

Terminal facilities. A yacht club, marina, a United States Coast Guard Station.

Operations and results during period. Preliminary engineering and design work (E&D) was performed during this period. This effort included bathymetric survey reviews and controlling depth reports as well as environmental coordination. Total operations and maintenance funds in the amount of $76,557.11 were expended for this work during FY 2003.

Conditions as of September 30. There has been additional shoaling in the federal channel and advance maintenance deposition basin.

17. LONG ISLAND INTRACOASTAL WATERWAY, NY

Location. A 33.6 mile long tidal channel opposite Patchogue, to the south end of the Shinnecock Canal in the Town of Southhampton.

Existing Project. A channel 6 feet deep, 100 feet wide from the Federally improved channel in Great South Bay opposite Patchogue, to the south end of the Shinnecock Canal. Length is about 33.6 mile.

Local cooperation. Fully complied with except that local interests are required to furnish suitable dredged material placement areas for maintenance.

Terminal facilities. No terminals suitable for commercial purposed have been established. There are many commercial boatyards along the length of the Intracoastal Waterway as well as two US Coast Guard Stations from which search and rescue missions are launched. The terminals are considered adequate for the present needs.

Operations and results during this period. A continuing contract was awarded to Innerspace Services Inc. on 25 September 02 for maintenance dredging of the Moriches Bay Reach on Long Island Intracoastal Waterway for removal of all material except ledge rock lying above the plane 6 feet below mean low water with placement on an island in Moriches Bay for creation of shorebird habitat. . The dredging was completed in March 2003 and approximately 46,000 cubic yards of material was removed. Total operations and maintenance funds in the amount of $1,634,452.23 were expended for this work during FY 2003.

Condition as of September 30. Work under the existing project was commenced in October of 1939 and was completed in September of 1940.

18. MATTITUCK HARBOR, NY

Location. A tidal inlet on the north shore of Long Island, about 85 miles east of the Battery, New York City, and 24 miles southeast of New Haven Harbor, CT, extending southward about 2 ¼ miles to Village of Mattituck.

Existing project. A channel 7 feet deep at mean low water from Long Island Sound to the Village of Mattituck., 100 feet wide at the entrance and 80 feet wide thereafter, and a 460 by 570 ft. anchorage area at the upper end.

Local cooperation. Fully complied with except that local interests are required to furnish suitable dredged material placement areas for maintenance.

Terminal facilities. Tilcon Minerals, Mattituck Inlet Wharfs; see Port Series No.5, revised 1999.

Operations and results during period. Total operations and maintenance funds in the amount of $115,607.29 were expended for engineering and activities during FY 2003.

Conditions as of September 30. Work under the existing project was commenced in June of 1921 and completed in November of 1921. Construction of West Jetty commenced in October of 1937 and was completed in August of 1938.

19. MORICHES INLET, NY

Location. On the south shore of Long Island, about 80 miles by water east of the Battery, New York City. It is an opening through the narrow sandy barrier beach on the south shore of Long Island which separates the Atlantic Ocean from a series of interconnected bays. (See National Ocean Survey Chart 12352).

Existing project. Provides for a channel, 10 feet deep at mean low water and 200 feet wide extending from that depth in the Atlantic Ocean to Moriches Bay, a distance of 0.7 miles; thence a channel 6 feet deep and 100 feet wide to the Long Island Intracoastal Waterway, a distance of 1.1 miles; rehabilitation of the existing jetties and revetments. Recent provisions include an outer channels deposition basin, a west jetty scour blanket , and habitat enhancement for shore birds. Estimate of cost of work is $13,050,000 (October 1988P.L.) including $50,000 from Coast Guard

and $4,550,000 to be contributed by local interests. (See Table 2-B for Authorizing Legislation).

Local cooperation. In accordance with the project authorization, local interests are required to furnish all easements, rights-of–way including relocations that are necessary for improvements at an overall 35% cost sharing basis. The annual Operations and Maintenance cost is estimated to be $1,860,000 of which the local share is 50% or $930,000 per year. An agreement of Local Cooperation was executed on 30 June 1986. The New York State Department of Environmental Conservation is the local sponsor.

Terminal facilities. Several yacht clubs, boatyards, and public wharfs and landings and numerous private landings are located in Moriches Bay. There are boat basins open to the public. The facilities existing in the bay are considered adequate for present and probable future needs under present conditions of Moriches Inlet. There is room for expansion should future activity warrant.

Operations and results during period, and condition as of Sept. 30. A bid opening for maintenance dredging 280,000 cy of material from the Inlet was held on 22 August 03, as Option #2 of Shinnecock Inlet maintenance dredging. The contract was awarded on 19 December 03. The total contract amount for this option is $1,604,000. The work commenced on 09 February 04 and was completed 24 February 04.

Condition as of September 30. Pre-construction planning resumed in October 1977. Coordination continued with Federal, State and local agencies on current problems and needs for all purposes (i.e., navigation; beach erosion control; water quality improvement). A post authorization change was approved in September 1983 to allow construction of each project purpose separately which clarified authority to defer all purposes except navigation. In January 1980 a breach occurred adjacent to the eastern jetty. Emergency funds ($11.3 million) were authorized under the authority of PL 84-99 to close the breach. About 1,185,000 yards of sand fill were used to effect closure of breach by March 1981.

20. NARROWS OF LAKE CHAMPLAIN, NY & VT

Location. This waterway, 37 miles long, comprises southern end of Lake Champlain and extends from Whitehall to Crown Point, NY at southern extremity of lake, northerly to Benson Landing, VT. (See N.O.S. Chart 14784).

Previous projects. For details, see Annual Reports for 1931, and 1963, pages 256 and 177 respectively.

Existing project. A channel extending from Whitehall, NY at head of Lake Champlain to Benson Landing, 12 feet deep at low lake level and generally 150 feet wide, and installation of lender booms at Putts Rock, Putts Leap, Narrows near Dresden, Pulpit Point and, Cedar Mountain. Reference plan of low take level is 93 feet above mean sea level. Section included in project is about 13.5 miles. Usual annual variation of lake level is 5.8 feet and extreme variation varies from 0.6 foot below up to 8.8 feet above low lake level.

Widening channel throughout its entire length to project width of 200 feet is inactive and excluded from foregoing description of existing project and cost estimate. (See Tale 2-B for Authorizing Legislation.

Local cooperation. None required.

Operations and results during the period. A continuing contract for maintenance dredging of approximately 65,000 cubic yards of sediment was awarded to Inner Space Services, Inc. on 20 July 2001.Operations and maintenance funds in the amount of $286,475 were expended on maintenance dredging activities during FY 2002.Government plant and hired labor were employed in the removal of snags and obstructions that constituted a potential hazard to navigation and in the repair and replacement of deteriorated fender booms during the fiscal year. In addition, environmental assessment activities relative to the Cooke's Island Placement site were performed. Total operations and maintenance funds in the amount of $ 90,555 were expended for this work during FY 2003.

Condition as of September 30. Work under the existing project was commenced June 1919 and is about 77 percent complete. A channel 12 feet deep at low lake level and least width of 150 feet has been excavated throughout the length of the improvement, except at the Elbow, where the width is 110 feet. Fender booms have been placed at the elbow. (Putts Leap and Putts Rock.)

21. NEW YORK HARBOR AND ADJACENT CHANNELS, (PORT JERSEY CHANNEL), NJ

Location. The Port Jersey Channel is the navigation channel located in the Upper Bay of New York Harbor. The Channel runs from its confluence with Anchorage Channel to its head of navigation in Bayonne, where Global Terminal & Container Services, Inc. provides berthing

facilities for container commerce within the Port of New York and New Jersey.

Existing Project. The Federal Port Jersey Channel Project will deepen and widen the existing (non-Federal) Port Jersey Channel and add a turning basin at the head of navigation. The authorized project provides for deepening the existing 35 to 38 foot deep channel to a depth of 41 feet deep below mean low water and generally 450 feet wide with suitable bends and turning areas to extend from deep water in the Anchorage Channel in the Upper Bay of New York Harbor, westward approximately 12,000 feet along the southern boundary of the Port Jersey peninsula, to the head of navigation in Jersey City/Bayonne, New Jersey. The Federal cost of construction is estimated at $88,782,000 with an additional $29,592,000 to be contributed by the primary non-Federal sponsor, the State of New Jersey Department of Transportation.

Local Cooperation. The State of New Jersey Department of Transportation is the primary non-Federal sponsor for the Port Jersey Channel Project. The Port Authority of New York and New Jersey also serves as a limited project sponsor for the single purpose of providing indemnification to the Federal government for the project.

Operations and results during period, and conditions as of September 30. On October 23,2000, the Record of Decision for the Project was signed. On March 28, 2001, the Assistant Secretary of the Army for Civil Works submitted the Chief of Engineers report formally to Congress. The State of New Jersey and the Port Authority executed a Project Cooperation Agreement (PCA) with the Government on July 23,2002. The first construction contract was awarded on October 28,2002, with work now underway.. Plans for the remaining construction contracts have been advertised to begin in 2004.

22. NEW YORK AND NEW JERSEY CHANNELS

Location. Extends from deep water northwest of Sandy Hook, through Lower New York Bay to the and Raritan Bay, to Perth Amboy, and thence through Arthur Kill Lower Newark Bay and Kill Van Kull to deep water in the Upper New York Bay. This is approximately along boundary line between States of New York and New Jersey. (See National Ocean Survey Charts 12333, 12331 and 12327.)

Previous projects. For details, see 1963 Annual Report, pages 184 and 185.

Existing project. A channel through Lower New York Bay, Raritan Bay Arthur Kill, Lower Newark Bay, Kill Van Kull to Upper New York Bay and Raritan Bay and in Arthur Kill to a point 1,000 feet north of Smith Creek, widened to 800 feet in vicinity of Seguine Point and Wards Point, respectively, thence 500 wide to a point 1,000 feet south of Piles Creek; thence 500 to 600 feet wide and passing, north
Of Shooters Island and protected by a dike to it's northern side to junction of channel Newark Bay; thence 800 feet wide through Kill Van Kull to Constable Hook; thence 1,000 feet wide for a point near the intersection with the channel along New Jersey pierhead line; thence 1400 feet wide through Kill Van Kull to Upper New York Bay; with an anchorage 38 feet deep to accommodate five vessels south of Perth Amboy, all with suitable easing bends and junctions. Section included in project is 30.8 miles long. In addition, construction of a dike north of Shooters Island and two secondary channels 30 feet deep and 400 feet wide, one south of Shooters Island and the other in Raritan Bay connecting with Raritan River, were completed under previous projects and maintained under existing project. A triangular area at the eastern end of the 30 foot channel south of Shooters Island was deepened to 35 feet in order to provide additional widening in vicinity of Bergen Point and is included in the Newark Bay project. All depths refer to plane of mean low water. Mean range of tides varies between 4.7 and 5.1 feet; mean range of spring tides 5.7 to 6.3 feet; irregular fluctuations due to wind and atmospheric pressure vary from 3.9 feet below mean high water. Anchorage as Sandy Hook and cutoff at junction of Main Ship Channel are deferred for restudy and excluded from foregoing description and cost estimate. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Fully complied with except for the middle section of Arthur Kill where local interest must furnish soil disposal areas for maintenance.

Terminal facilities. See Port Series No.5, revised 1988, Vol.2.

Operations and results during the period. Operations and maintenance funds in the amount of $5,883,246.68 was expended on this project in FY 03 for engineering and design for dredging of Raritan Bay Reach at Seguine Point Reach and for dredging of the Arthur Kill Reach.

Condition as of September 30. Work under active portion of existing project began in October 1933. Work completed consists of providing authorized project depth and widths throughout entire channel Lower New York Bay and providing depths of 37 and 25 feet in Perth Amboy Anchorage. In addition to above mentioned work, construction of dike north Shooters Island, two secondary channels 30 feet deep and 400 feet wide, one south of Shooters Island, the other in Raritan Bay connecting with Raritan River were completed under previous projects.

Work remaining under existing project consists of dredging cutoff junction of Main Ship Channel to dimensions authorized by River and Harbor Acts of August 30,1935, and May 17,1950, dredging anchorage in vicinity of Sandy Hook.

23. NEW YORK HARBOR-COLLECTION AND REMOVAL OF DRIFT

Location. Applies to Lower and Upper Bays, New York Harbor; East River, Harlem River, Lower Hudson River Channel, New York, NY and New Jersey Channels, Newark Bay, NJ, Passaic and Hackensack Rivers, NJ, Raritan and Sandy Hook Bays, NJ, Jamaica Bay, NY, the Western Portion of Long Island Sound, and their tributaries.

Existing project. Provides for collection, removal and disposal of drift, derelict vessels, deteriorated shore structures and debris along shores of New York Harbor and tributary waters, and for the repair of certain other in-use piers, wharves and shore structures. Work authorized before Act of 1974 was restricted solely to removal of drift from waterway and was funded as maintenance activity. In 1991, WDRA 1974 was modified to authorize collection of floatables wherever corp is collecting and removing debris which is an obstruction to navigation.The current estimate of first cost is $292,000,000 (October 1997 P.L.) including $68,000,000, cash contribution from local interests plus $89,000,000 to be contributed for repair of deteriorated shore structures in use. (See Table 2-B for Authorizing Legislation.)

Local cooperation. Local cooperation conditions provide that local interests must furnish all lands, easements and rights-of –way required for the improvement; hold the United States free from damages; enact and enforce local legislation to prevent creation of sources of drift, contribute in cash one third of the first cost of the Federal drift removal work, and make necessary repairs to deteriorated structures in use so as to eliminate them as a source of drift. These conditions are subject to approval by the Secretary of the Army and the President, as stipulated in Section 113 of the authorizing law, Public Law 91-611.

Operations and results (New work-cumulative to date). A total of five Liberty State Park contracts have been completed at a cost of $10,321,112. East River-Manhattan Waterfront contract was completed at a cost of $1,477,806. A contract for the removal of pier 17 and 18 on the East River was completed at a cost of $219,604. The City of Elizabeth contract was completed at a cost of $791,656. The Stapleton, Staten Island contract was completed at a cost of $2,910,400. A contract for the city of Hoboken was completed at a cost of $2,123,404. Work along the Jersey City South waterfront was completed at the cost of $979,580. Contract Number One at Weehawken to Edgewater was completed at a cost of $1,697,487. The Brooklyn Reach One contract was completed at a cost of $5,057,920. Work was completed on the Weehawken to Edgewater Contract No. 2 at a cost of $8,490,000, and Jersey City North Contract No. 2 at a cost of $1,800,000. The Bayonne One contract has been completed at a cost of $735,800. Hoboken Pier B was completed at a cost of $973,590, and Jersey City North 1 was completed at a cost of $2,358,000. Weehawken-Edgewater Contract 2A was completed at a cost of $4,550,000. The Brooklyn 2A Reach removal contract was completed in October 1999 at a cost of $4,878,022. The Passaic River, Newark, Kearny and Passaic, NJ Reach was completed in May 1999 at a cost of $109,907.

Maintenance. U.S. Debris Boats Driftmaster, Gelberman and Hayward and auxiliary plant were assigned the task of removing and disposing of floating debris that is a hazard to navigation. Removal and disposal of 530,400 cubic feet (4,144 cords) of floating debris consisting mainly of driftwood, ranging in size from small blocks to large timbers, including pilings, pieces of wreckage, derelict vessels and sections of deteriorated pier structure was accomplished at a cost of $4,868,000 during FY 2003.

Conditions as of September 30. For work authorized by Water Resources Development Act, removal of drift sources has been completed in New Jersey at Liberty State Park, the City of Elizabeth, Hoboken, and parts of Jersey City, Bayonne, Weehawken to Edgewater, and Passaic River in Newark, Kearney and Passaic. The New York City work has been completed along the Manhattan side of the East River (South Street Seaport), along part of the Brooklyn waterfront, and at Stapleton, Staten Island.

24. NEW YORK HARBOR-ENTRANCE CHANNELS AND ANCHORAGE AREA

Location. In Upper and Lower Bays, New York Harbor is 330 miles southwest by water of Boston Harbor. Mass.., and 165 miles northwest of entrance to Delaware Bay, NJ. The Upper Bay extends about 5.5 miles southerly from junction of Hudson and East River opposite the Battery, New York City to the Narrow. The Lower Bay extends about 9 miles from the Narrows to the sea.. (See National Ocean Survey charts 12334,12335 and 12349.)

Existing project. Ambrose Channel 45 feet deep and 2,000 feet wide, extending about 10.2 miles from sea to deep water in the Lower bay; Anchorage Channel, and extension of Ambrose Channel, with same depth and width, in the Upper bay opposite anchorage grounds, about 5.7 miles long; and southerly entrance channel. Sandy Hook

Channel (East Section) 35 feet deep and generally 800 feet wide extending 3.4 miles from 35 foot ocean contour to Bayside Channel along an alignment generally west of the South Channel; and elimination from authorized project of that portion of Bayside-Gedney Channel east of junction with new southerly entrance Gedney Channel east of junction with new southerly entrance channel; for bayside Channel 35 deep and 800 feet wide, extending about 5.3 miles from Bayside Channel to deep water in Lower Bay; a channel along New Jersey pierhead line connecting Kill Van Kull with deep water in anchorage Channel, south of Liberty Island anchorage. 20 feet deep fro 500 feet wide with sidening at bends to 800 feet and bout 3 miles long; anchorage in vicinity of Liberty (Bedloes) Island (about 160 acres in extent) 20 feet deep; and for removal of craven shoal to 30 feet deep; for a channel 16 feet deep, 200 feet wide, and about 2.3 miles long, extending from bell buoy 23 to Hoffman and Seinburne Island; for an anchorage area in Red Hooks Flats to depths of 45, 40 and 35 feet and an anchorage area in Gravesand Bay to 47 feet deep. Project depths refer to mean low water. mean tidal range is 4.7 at Fort Hamilton; mean range of spring tides, 5.7 feet; irregular fluctuations due to wind and atmospheric pressure vary from 3.9 feet below mean low water up to 6.2 feet above mean high water. Dredged Material Management Plan.

Location cooperation Fully complied with .Port Authority , States of New York and New Jersey, New York City

Terminal facilities. Port of New York and New Jersey

Operations and results during the period. A continuing contract was awarded to Weeks Marine, Inc. on 5 September 2001 for removal of all material except ledge rock lying above the plane of 35 feet below mean in specified areas of Red Hook Flats Anchorage, NY. Approximately 487,500 cubic yards of material was dredged and transported to Historical Area Remediation Site (HARS). Dredging was completed on 28 November 2001.Total operations
and maintenance funds expended on Red Hook Flats during FY 2002 was $1,020,939. Updated draft DMMP and draft final Programmatic EIS prepared and coordinated with local agencies for release to public in CY 04. Completed data collection effort for habitat restoration option at degraded pits within Jamaica Bay. Total operations and maintenance funds in the amount of $3,242,402.27 were expended for this work during FY 2003.

Condition as of September 30. Work under existing projects began in 1885 and is 100 percent complete. Main Ship and Bayside-Gedney Channels were completed to 30 feet deep in February 1891. Deepening of Bayside-Gedney Channel to 35 feet for a width of 800 feet was completed in June 1939. Ambrose Channel was completed to 40 feet deep for a width of 2,000 feet in April 1914 and substantially completed to 45 feet for a width of 2,000 feet in 1951. Relocation of Anchorage Channel was completed to 40 feet deep in October 1932. Center 800 feet was dredged to 45 feet in June 1947 and westerly 600 foot strip in April 1948. Easterly 600 foot strip was substantially completed in June 1953. Channel between Staten Island and Hoffman and Swinburne Islands was completed in December 1920 up to within 300 feet of southerly limits of the project. Dredged channel meets all needs of navigation and no further work of improvement is contemplated for the present. Channel along New Jersey peirhead line from Kill Van Kull to Anchorage Channel was completed in March 1939. Widening at bends nearly southerly and northerly ends authorized in 1948 was completed to depths of 45 and 35 feet in October 1976. Anchorage Channel was relocated to the westward in 1982. Red Hook Flats Anchorage was accordingly increased in area. No dredging was required. Liberty (Bedloes) Island anchorage was completed to 20 feet in Oct. 1944. Sandy Hook Channel (east section) was Gravesend Bay was completed to 47 Foot depth in November 1977. FY 2004 DMMP Implementation Report and Final Programmatic EIS to be released in CY 2004.

25. NEW YORK AND NEW JERSEY HARBOR, NY & NJ

Location. Extends from deep water northwest of Sandy Hook, through Lower New York Bay to the Verrazano Bridge, then slits northeast along the Brooklyn waterfront, north in the Upper New York Bay to Port Jersey, and west along the Kill Van Kull and portions of the Newark Bay and Arthur Kill Channels. (See National Ocean Survey Charts 12333, 12331 and 12327.)

Previous projects. See New York and New Jersey Channels, Newark Bay Channels, Bay Ridge Channel.

Existing project. The plan requires deepening the entire 10.6 nautical miles of Ambrose Channel extending from deep water in the Atlantic Ocean to the Narrows to a depth of 53ft MLW and 2,000 feet wide. The Anchorage Channel will be dredged to 50ft MLW for 19,000 feet from Narrows to the point 1,000 feet north of the junction with Port Jersey Channel at a width of 2,000 feet. The Port Jersey Channel is to be deepened to 52ft MLW in the rock or otherwise hard material and maintained at a depth of 50ft MLW. The channel will be deepened for a distance of 10,000 feet from this juncture with Anchorage Channel. Through the berthing areas at the Global Marine Terminal and the former MOTBY.
Kill Van Kull is to be deepened to 52ft MLW in the rock or otherwise hard material and maintained at a depth of 50ft MLW, extending from its junction. with Anchorage

Channel. to its junction with the Newark Bay Channel near Bergen Point, and will be 800 foot wide. The Newark Bay Channels are comprised of the Main Channel (South, Middle and North Reaches) plus numerous access channels (South Elizabeth Channel, Elizabeth Channel, Elizabeth Pierhead Channel, Port Newark Pierhead Channel and Port Newark Channel). The main Port Newark Channel will be dredged from its juncture with the Kill Van Kull near Bergen Point to a point located 1,500 feet north of the Elizabeth Channel. The channel will extend north of the Elizabeth Channel to aid vessels in turning and backing into berth.. The 14,000 LF of improvement proposed for the main Newark Bay Channel will not change the present width, which varies from 2,200 feet at its northern terminus 800 feet near Bergen Point. Similarly, the 8,800 foot long Elizabeth Channel will also remain at its present width, which varies from 500 to 800 feet, and its present alignment. The 2,700 long South Elizabeth Channel will be significantly widened from its present 290 feet to 500 feet. Each of the aforementioned channels will be dredged to 52 ft MLW in rock or otherwise hard material and maintained at 50 ft MLW. The Arthur Kill Channel will be deepened from its juncture with the Kill Van Kull near Bergen Point to the Howland Hook Marine Terminal. This 2.4 nautical mile segment of channel will be dredged to a depth of 52 ft MLW in rock or otherwise hard material and maintained at 50 ft MLW. The existing channel varies in width from 500 feet to 800 feet, but will be widened to 800 feet as part of the 41 ft MLW project. This width will be maintained for this project. The nearly 3 nautical mile long Bay Ridge Channel will be improved and maintained to a depth of 50 ft MLW. The proposed channel will parallel the eastern side of current channel at a width of 600 feet, reduced from the current width of 1,200 to 1,750 feet. A proposed turning basin, with a diameter of 1,600 feet, is to be located at the north end of the channel.

Local cooperation. Fully complied with Design Phase. Exceution of the Project Cooperation Agreement is scheduled for May 2004.

Terminal facilities. See Port Series No.5, revised 1999

Operations and results during the period. Under the provisions of Section 101,WRDA 2000, the Port Authority of New York and New Jersey has undertaken the deepening of a portion of the project located near Bergen Point to its authorized depth. This area is primarily rock which will be placed at artificial fishing reefs. The work is being done concurrently with work on Kill Van Kull and Newark Bay channels project, which is deepening that area to 45 feet MLW. The Port Authority is expecting that their costs for this effort will be credited towards the overall project once the Project Cooperation Agreement is executed.

Condition as of September 30. Work remains on all portions of the project, except as noted above.

26. NEWARK BAY, HACKENSACK AND PASSAIC RIVERS, NJ

Location. Newark Bay is an estuary about 1.25 miles wide and 6 miles long extending southerly from confluence of Hackensack and Passaic Rivers to New York and New Jersey Channels. Hackensack River rises near Haverstraw, Rockland County, NY and flows about 45 miles into Newark Bay. Passaic River rises in highlands of northeastern New Jersey and flows about 80 miles into Newark Bay. (See National Ocean Survey Charts 12333 and 12337)

Previous projects. For details, see 1926 Annual Report, pages 265 and 266; and Annual Reports for 1929, 1938, 1954, and 1976, pages 301, 244, 124, and 2-11 respectively.

Existing project. A main channel 700 feet wide to the branch channel to Port Newark, thence 500 feet wide to a turning basin 1,300 feet long and 900 feet wide at the junction of the Hackensack and Passaic River channels, length about 4.7 miles; a maneuvering area south of the removed Central Railroad of New Jersey Bridge 2,200 feet long and 300 feet wide with depths of 38 feet in the south half and 35 feet in the north half; a combined bend cutoff and maneuvering area at the south side of the junction with Elizabeth branch channel; and widening bends at the Kill Van Kull and Port Newark Bay Channels.(Authorized depth 35 feet except as noted above). (adopted 1966) including a triangular area east of Shooters Island with a depth of 37 feet.

At Port Newark-A branch channel 500 feet wide, leading to an inshore channel 400 feet wide 1.6 miles (adopted 1945). Authorized depth 37 feet in rock and 35 feet in soft material; a pierhead channel 200 feet wide along the east bulkhead between Port Newark and Elizabeth branch channels; between 4,100 feet). Authorized depth 35 feet (adopted 1962).

At Elizabeth Marine Terminal-A branch channel 500 feet wide, length about 1.4 miles; a pierhead channel along the east bulkhead 290 feet wide, length about 2,600 feet, southern approach area just above former Central Railroad of New Jersey Bridge enlarged for turning and maneuvering, with a maximum length of about 2,700 feet and width (between the pierhead channel and Newark Bay channel) of about 800 feet. Authorized depth 35 feet (adopted 1962).

Local Cooperation. Rivers and Harbor Act of 1954 provides local interests, furnish lands, right-of-way, the suitable spoil-disposal areas for initial construction and future maintenance; provide depths commensurate with channel depth in approaches and berths at terminals of companies which would use improvement; and hold the United States free from damages. Rivers and Harbor Act of 1962, provides that local interests must provide lands, easements and rights-of-way for maintenance and construction , hold the United States free from damages, provide and maintain adequate public terminal and transfer facilities, and accomplish without cost to the United States, removal or relocation of pipelines, cable and other utilities. Assurances were furnished by Port of New York Authority and accepted June 12,1964. Local cooperation required by previous modifications is fully complied with.

Terminal facilities. See Port Series No.5, revised 1978, Vol.2.

Operations and results during the period. A continuing contract for the removal of all material except ledge rock lying above the plane of 40 feet and 41 feet, below MLW was awarded on September 2002 to Don Jon Marine Co. Inc, for maintenance dredging of Newark Bay Main Channel. The contract was financed by the Government and the Port Authority of New York and New Jersey. The PA provided the specified disposal site for the removal of approximately 68,510 cubic yards of material. Operations and maintenance funds in the amount of $1,356,476.23 were expended during FY 2003.

Condition as of September 30. Work under the active portion of the original portion of the original project began June 1976 and is 100 percent complete. Approximately 250,000 cubic yards of maintenance material remain in the Port Newark Branch and Pierhead Channels. Work remaining to complete existing original project consists of deepening the Hackensack River channel to depths of 32 feet and 15 feet., except as noted above.

27. PLATTSBURGH HARBOR, NY

Location. An area of about 25 areas along the westerly Shore of Cumberland Bay, an arm of Lake Champlain. The Harbor is that portion of the bay between wharf front of Plattsburgh, NY and the breakwater constructed by the United States.(See Lake Surveys Chart 172)

Existing Projects. Provides for a breakwater 1,565 feet long built of timber cribs filled with rubble stone and capped with large stone and extending from a point 750 feet south of outer face of South dock generally northeasterly to a point about 1,400 feet from shore; and for dredging to a depth of 9 feet at low lake level between the breakwater and the wharves. Reference plane of low lake level is 93.0 feet above mean sea level at Sandy Hook, NJ. Usual variation of lake level is 5.8 feet, and extreme variation from 0.6 feet below up to 8.8 feet above low lake level.

Local cooperation. None required **.**

Terminal Facilities. Four timber wharves, aggregating 1,780 feet in length, 400 feet of which are open to the public; all are privately owned. The State of New York has constructed a barge canal terminal about 1 mile north of the breakwater. These appear adequate for the existing commerce.

Operations and results during the period. A continuing contract to perform repairs to approximately fifty percent of the breakwater was awarded to Tug Hill Construction, Inc. on 26 June 2002. Total operations and maintenance funds in the amount of $664,134 were expended during FY 2003 to complete the contract for breakwater repairs including engineering and design during construction, supervision and administration, and construction activities.

Condition as of September 30. Work under existing project commenced 1836 and was completed in 1913. Breakwater was completed in 1893 and dredging in 1913.

28. RARITAN RIVER, NJ

Location. Rises in northern-central part of New Jersey and flows generally southeasterly into Raritan Basin, between Perth Amboy and South Amboy, about 24 miles by water south of the Battery, New York City. (See National Ocean Surveys Chart 12332)

Previous Projects. For Details see Annual Reports for 1915, 1918, and 1938 pages 1777, 359 and 259 respectively

Existing Projects. A channel 25 feet deep and 300 feet wide extending 5.8 miles from turn in New York and New Jersey Channels near Great Beds Light to Government wharf on Main Channel, widened to 600 feet for 1,000 feet of long opposite to form a turning basin of same depth; thence a channel 150 feet deep and 200 feet wide 3 miles to Washington Canal, thence 10 feet deep in soft material, 11 feet deep in rock, and generally 100 feet wide with widening at bends 5 miles to site of former D&R Canal entrance at New Brunswick, and a South Channel 25 feet deep and 300 feet wide 0.8 mile from junction with Main Channel at Keasby to upper limit of Titanium Pigment Co. property; ; thence 15 feet deep and 150 feet wide 0/4 miles to dock of Middlesex County Sewerage Authority; thence 10 feet deep and 150 feet wide 2 miles to a point 1,300 feet below upper junction with Main Channel

at Crab Island. Plane of reference is mean low water. Mean range of tides is 5.1 feet at mouth of river and is 5.6 feet at New Brunswick; mean range of spring tides, 6.1 and 6.6 feet respectively. Irregular fluctuations due to winds and atmospheric pressure vary from 3.6 feet below mean low water up to 6.9 feet above mean high water. New work for completed portion of project, consisting of channels described above cost $1,237,000, exclusive of amounts expended on previous projects, including $66,000 contributed by local interests. Dredging South Channel to 10 feet deep and 150 feet wide for 1,300 feet to upper junction with Main Channel at Crab Island is inactive and excluded from foregoing description and cost estimate. (See Table 2-B for Authorizing Legislation

Local Cooperation. Complied with except local interests. Must furnish spoil-disposal areas for maintenance to 25-foot channel from New York & Long Branch Railroad bridge to junction of Main and South Channels, and is South Channel to Titanium Pigment Co. Property. Rivers and Harbor Act of 1962, provides local interests furnish spoil-disposal areas and necessary retaining dikes, bulkheads and embankments therefore, required for maintenance of improvement, and hold the United States free from damages.

Terminal Facilities. See Port Series No., 5, revised 1988, Vol.2.

Operations and results during period. Engineering and design for future maintenance work was initiated in FY 2003. Operations and maintenance funds in the amount of $70,000.00 was expended on this project in FY 2003.

Condition as of September 30. Entire existing project is about 96 percent complete. Work under active portion of existing project was commenced on September 1919 and completed July 1941.A shoal along northerly channel line in vicinity of Victory Bridge was eliminated by relocation of channel in February 1959. Main Channel dredged 25 feet deep and 300 feet wide from junction with New York and New Jersey Channels to and including a turning basin of same depth opposite Government Wharf thence 15 feet deep and 200 feet wide to mouth of Washington Canal, thence 10 feet and 10 feet deep and 100 feet wide to Delaware and Raritan Canal outlet locks at New Brunswick . South Channel dredged 25 feet deep and 300 feet wide for 3,200 feet, thence 10 feet deep and 150 feet wide for 12,400 feet to within 1,300 feet of junction. with Main Channel to Crab Island . Model study of Raritan River was completed in March 1952, Work remaining under existing project is dredging South Channel to 10 feet deep and 150 feet wide for 1,300 feet to upper junction with Main Channel to Crab Island .

29. RARITAN RIVER TO ARTHUR KILL CUTOFF CHANNEL, NJ

Location. Channel is in western portion of Raritan Bay, off Perth Amboy, and about 23 miles by water southwest of the Battery, New York City. (See Chart No. 12331)

Existing Projects. Channel 1 mile long, 20 feet deep at mean low water, and 800 feet wide, 3 miles connecting Raritan River channel with southern end of Arthur Kill Channel , New York and New Jersey Channels Project. Mean tidal range 5.1 feet; mean range of spring tides, 6.1 feet; irregular fluctuations due to wind and barometric pressure vary from 3.6 feet below mean low water up to 6.9 feet above mean high water. New work for completed project cost $810,500. (See Table 2-B for Authorizing Legislation.)

Local Cooperation. None required.

Operations and results during period. Approximately 72,000 cy of material was removed by Corps' Hopper Dredge "Mc Farland" during FY 1991, to restore project dimensions Raritan River to Arthur Kill Cut-Off Channel, at a project cost of $699,173..

Condition as of September 30. Existing project was completed in 1935

Operations and results during fiscal year. A continuing contract for maintenance and dredging was awarded on 4 August 2000 to Great Lakes Dredge and Dock Company on 30 June 2000 to remove approximately 175,070 cy of material. Operations and maintenance funds in the amount of $972,778.10 was expended on this project during FY 2000.

30. SAG HARBOR, NY

Location. On northern shore of south fork of Long Island, about 24 miles west of Montauk Point. (See U.S. Coast and Geodedit Survey Chart No.298.)

Existing Project. Provides for a breakwater 3,180 feet long extending northerly from Conklin Point; and for an entrance channel 3,200 feet long, 100 feet wide, and 10 feet deep at mean low water from Shelter Island Sound by way of village wharf to mooring dolphins of Standard Oil Co.; for a turning in of same depth; for and anchorage area 8 feet deep at a small anchorage area 6 feet deep at mean low water between the village wharf and Sag Harbor Yacht Club pier. Length of section included in project is about five eighths mile. Mean tidal range, 2.5 feet; mean range of spring tides, 3 feet; irregular fluctuations due to wind and barometric pressure vary from 2 feet below mean low water up to 4.9 feet above mean high water. Cost for new work

for completed project was $121,805. The entrance channel anchorages and turning basin were deauthorized in 1992.

Local Cooperation. Fully Complied with.

Terminal Facilities. There are 7 terminals with a total available berthage of 4,250 feet located in harbor. Three of these terminals with berthage of 2,700 feet, and in addition two small basins, with suitable landing facilities, are open to the public. Mooring dolphins serve to tie up oil barges. One boatyard with storage space for 50 boats sand equipped with two marine railways is available for pleasure craft. Facilities are considered adequate for existing commerce.

Operations and results during the period. A continuing contract (FY00/01/02/03) was awarded to Newborn Construction, Inc on 30 September 2000 for rehabilitation of the breakwater. The rehabilitated structure will have similar dimensions (length, crest width and elevation) as the authorized structure, however, the bayward facing slope will be flattened from 1 on 1 on 1.5 to correspond with Corps of Engineers standard breakwater design criteria. The breakwater rehabilitation was completed as of 23 September 2003. Operations and maintenance funds in the amount of $1,463,474.98 was expended on this project during FY 2003.

Conditions as of September 30. A continuing contract (FY00/01/02/03) was awarded to Newborn Construction, Inc on 30 September 2000 for rehabilitation of the breakwater. The rehabilitated structure will have similar dimensions (length, crest width and elevation) as the authorized structure, however, the bayward facing slope will be flattened from 1 on 1 on 1.5 to correspond with Corps of Engineers breakwater design. Operations and maintenance funds in the amount of $1,463,474.98 was expended on this project during FY 2003 closing out the contract. The breakwater rehabilitation was completed on 23 September 2003. Total cost of contract was $5,936,445.56.

31. SHARK RIVER, NJ

Location. Shark River Channel begins at Shark River Inlet that connects with the Atlantic Ocean at a point 20 miles south of Sandy Hook, NJ. The channel extends 1.7 miles south east of the Inlet.

Existing project. A channel 18 feet deep, 150 feet wide; thence 12 feet deep and 100 feet wide to Rt. 35 bridge; 8 feet deep and 100 feet wide to the Boat Basin, anchorage area 7.3 acres.

Local cooperation. Fully complied with except that local interests are required to furnish suitable dredged material placement areas for maintenance.

Terminal Facilities. No terminals suitable for commercial purposed have been established. Approximately four commercial boatyards are located in Shark River. The terminals are considered adequate for present needs.

Operations and results during period. A contract was awarded to Gibson and Cushman Company, LLC on December 11,2002 for the maintenance dredging of the outer (entrance) channel and a portion of the inner channel of Shark River for removal of all material except ledge rock lying above the plane of 18 feet and 12 feet below mean low water, respectively, with placement on the nearby Borough of Avon-By-The-Sea beach and as a nearshore berm along the 10 ft. below mean low water contour. Approximately 20,000 cubic yards of sand was removed. The dredging was completed in January 2003. Additionally, the Corps' Dredge Currituck was hired for 2 days in August 2003 to remove a shoal from the inlet. A total of 1,600 cubic yards of sand was dredged from the channel and placed as a nearshore berm along the 10 ft. below mean low water contour. Total operations and maintenance funds in the amount of $1,080,991.48 were expended for this work during FY 2003.

Conditions as of September 30. Work under the existing project was commenced in June of 1947 and completed in October of 1947.

32. SHINNECOCK INLET, NY

Location. On the south shore of Long Island, about 95 miles east of the Battery, New York City. It

is an opening through the sandy barrier beach, connecting Shinnecock Bay with the Atlantic Ocean. (See National Ocean Survey Chart 12352).

Existing project. Provides for a channel 10 feet deep (mlw) and 200 feet wide with a deposition basin, thence extending through the inlet to Shinnecock Bay for a distance of about 0.7 mile thence a channel 6 feet deep and 100 feet wide to the Long Island Intracoastal Waterway, a distance of about 1 mile; rehabilitation of the existing jetties and revetments. Estimate of cost for work is $22,300,000(October 91 P.L.) of which the Federal share is $16,900,000 and non-Federal share is $5,400,000.

Local cooperation. The navigation improvement will accrue both recreational and commercial benefits which result in a first cost allocation of 69 percent Federal and 31

percent non-Federal. The authorizing document also requires that local authorities; provide without cost to the United States, all lands easements, right-of-way, and suitable disposal areas for the initial work and for subsequent maintenance, when and as required; hold and save the United States free from damages due to the construction and maintenance of the project; maintain and operate the works after completion in accordance with regulations prescribed by the Secretary of the Army; provide and maintain suitable terminal facilities when and as required for the accommodation of vessels that would navigate the inlet and adjacent bays, open to all on equal terms maintain, for the duration of the economic life of the project, continued public ownership of the publicly owned shores and their administration for public use, and continued availability for public use of the privately owned shores upon which a portion of the Federal share of the costs is based. A Local Cooperation Agreement for the dredging element of the project was executed with the New York State Department of Environmental Conservation on 7 June 90.

Terminal facilities. Shinnecock Bay, and adjacent ocean area, constitute an important marine fishery. The public fishing facility includes three docks, one of which, the Shinnecock Fishermens Cooperative, stores and market the catch for the fishermen.

Operations and results during period. A continuing contract for rehabilitation/revetment of the Western Jetty at Shinnecock Inlet was awarded on 20 June 2001 to Seaboard Marine Corporation for $3,599,565. Mobilization commenced on 5 August 2001. On July 3, 2002 the Seaboard Marine Corporation was terminated for default. The surety company has taken over the project, and has contracted to complete the project with the Newborn Construction in November 2002. The project was expected to take fifteen months to complete. At present Newborn Construction has completed 1200 feet of repairs to the jetty, initiated work on another 70 feet of the jetty, and removed the sheet piles driven by the previous contractor in the inlet. Work is expected to be completed by May 04.Operations and maintenance funds in the amount of $1,279,599.13 were expended during FY 2003. A bid opening for maintenance dredging of the inlet was held on 22 August 03, and awarded on 19 December 03. The total contract amount for the maintenance dredging of 400,000 cubic yards is $3,089,000. The work is expected to commence in February 04 and be completed in March 04.

Condition as of September 30. The initial dredging and reconstruction of the east and west jetties have been completed.

33. SUPERVISOR OF NEW YORK HARBOR (PREVENTION OF OBSTRUCTION AND INJURIOUS DEPOSITS)

The District Engineer, New York District, was designated Supervisor of New York Harbor under the provisions of the River and Harbor Act of June 29,1888 (33U.S.C. 441-451), as amended July 12, 1952. Under this Act, the Supervisor of New York Harbor is charged with the mission of preventing the deposit of obstructive and injurious materials in New York Harbor and its adjacent and tributary waters, including Long Island Sound. The River and Harbor Act of August 18, 1894 (33 U.S.C. 452) makes it unlawful for any person or persons to engage in fishing or dredging for shellfish in any of the channels leading to and from New York Harbor, or to interfere in any way with the safe navigation of deep draft traffic; the River and Harbor Act of March 3, 1899 (33 U.S.C. 403, 407, 409) prohibits obstructions to navigable waters such as unauthorized structures, unauthorized fill, deposit of refuse, and willful or negligent abandonment of vessels. Other laws relating to the supervision of New York Harbor and its tributary water are the Clean Water Act, the Marine Protection, Research and Sanctuaries Act of 1972, the Coastal Zone Management Act of 1969, the Fish and Wildlife Act of 1956, the Federal Power Act of 1920, the National Historic Preservation Act of 1966, the Endangered Species Act of 1973, the Deepwater Port Act of 1972, the Wild and Scenic Rivers Act and the Land and Water Conservation Fund Act.

Direct supervision of the waters under the jurisdiction of the New York District is accomplished by means of a patrol vessel whose scope of duty includes surveillance of the water front for unauthorized construction or fill, surveillance of tows enroute to dumping grounds in Atlantic Ocean to ensure that material is not illegally deposited in the waters of New York Harbor, and investigation of wrecks and abandoned vessels. In addition to the patrol vessels, whose range of patrol is limited to New York Harbor, inspectors utilizing government vehicles patrol shorefront facilities and property. The inspectors operate out of the New York District Office. Their duties include inspection of authorized construction, fill or excavation in waterways, including wetland areas, to ensure that work is performed in accordance with the Corps permit, as well as investigation of unauthorized construction activities. The inspectors also patrol all waterways in their respective area and inform the public of the Corps' role and jurisdiction as well as provide assistance in the preparation of permit application, (See Table 2-E at end of chapter).

34. RECONNAISSAANCE AND CONDITION SURVEYS (See Table 2-F at end of chapter)

35. OTHER AUTHORIZED NAVIGATION PROJECTS (See Table 2-G at end of chapter)

36. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation Activities pursuant of Section 107, Public Law 645, 86th Congress as amended (Pre-Authorization). (See Table 2-N at end of chapter)

Beach Erosion Control

37. ATLANTIC COAST OF LONG ISLAND JONES INLET TO EAST ROCKAWAY INLET LONG BEACH ISLAND, NY

Location. Atlantic Coast of Long Island, in Nassau County, New York, between Jones Inlet and East Rockaway Inlet.

Existing project. The project feasibility study was conducted pursuant to a resolution by the Committee on Public Works and Transportation of the U.S. House of Representatives that was adopted October 1, 1986. Project construction was authorized by the Water Resources Development Act of 1996. The total Federal cost of the project is $299,000,000 and total non-Federal cost is $161,000,000. The authorized plan provides for storm damage protection for 7 miles of public shoreline against a 100 year storm event. Protection is provided by constructing a 110 foot wide protective beach berm at an elevation of 10 feet above sea level backed by a 25 foot wide dune system at an elevation 15 feet above sea level. The project also includes the rehabilitation of 16 existing groins and the construction of four new groins at the eastern end of the island. In addition, the project includes periodic nourishment of the restored beaches on a 5 year cycle for a period of 50 year following initial construction.

Local cooperation. The local sponsor is the New York State Department of Environmental Conservation, who funded 50 percent of the cost of the feasibility study. The Project Cooperation Agreement has not yet been negotiated, but the customary provisions are that local interests will provide, without cost to the United States, all lands, easements, and rights-of-way, including borrow areas, necessary for construction of the project, fund 35% of the total project cost, assure continued conditions of public ownership and use of the shore, maintain public use facilities open and available to all on equal terms, and maintain all improvements after completion of construction in accordance with Federal regulations for the economic life of the project.

Operations and results during the period and condition as of September 30. The Feasibility Report with Draft Environmental Impact Statement (EIS) was completed in February 1995. The Pre-construction, Engineering and Design (PED) phase was completed in September 1997. The final EIS was released for public comment in May 1998 and the record of decision was signed in December 1998. Congress added $2 million in FY 1998 and 7.5 million in FY 1999 to continue the design of the project and initiate construction. The local sponsors requested that the Corps of Engineers reanalyze the area between the proposed new groins and existing groin field in the City of Long Beach before starting construction. A study was conducted which utilized new modeling techniques that were unavailable during the feasibility study to finalize the groin field design. The final report summarizing the findings of the study was completed in March 2000. A reevaluation report that incorporates the design modifications made since the completion of the feasibility study is underway and is scheduled to be completed in November 2004. The reevaluation report will be used as a basis for the PCA. The plans and specifications will be prepared in 2005 if Federal funds are available.

38. EAST ROCKAWAY INLET TO ROCKAWAY INLET & JAMAICA BAY, NY

Location. Atlantic Coast of New York City, between East Rockaway and Rockaway Inlets, and

the lands within and surrounding Jamaica Bay. The coastal area (about 10 miles long) is a peninsula in Queens County separating the ocean and the bay. (See National Ocean Survey Charts 12327, 12350 and 12326).

Existing project. The projects consists of nourishing 100 foot wide beach at an elevation of 10 feet above mean low water from Beach 149th Street to 19th Street. Initial beach replenishment (5 contracts) previously took place between 1979 and 1988. Construction of a stone groin at Beach 149th St. was completed in September 1982. A Section 934 Report approved in February 1994, recommended continued nourishment over a nine year period. The total Federal participation includes first cost and periodic beach nourishment, the total estimated at $63,700,000 (Oct. 1996 P.L.) and non-Federal costs of $45,900,000. The Section 934 Report also recommended a

reformulation study to evaluate alternative methods of providing storm damage protection to the Rockaway area.

Local cooperation. Local interests have agreed to provide lands and rights-of-was, including borrow area: bear a portion of the total cost as a cash contribution; hold the United States freed from damages; maintain, during economic life of a project, continued public ownership and use of non-Federal publicly-owned shores upon which Federal participation in beach protection is based; maintain and operate all works after completion, control water pollution to the extent necessary to safeguard the health of bathers. The project cooperation agreement for additional renourishment over the nine year period was executed on 25 May 1995.

Operations and results during period and condition as of September 30. A final Environmental Impact Statement was filed with the Council of Environmental Quality on April 16, 1971. Initial beach restoration was completed in FY 1977. Contract for first increment of periodic nourishment was completed in August, 1982. Contract for construction of a stone groin at Beach 149th street was completed in September, 1982. Periodic nourishment contracts Nos. 3, 4, and 5 were completed between 1978 and 1988. Contract NO.6 was completed in 1997. The contract included beachfill placement of approximately 3 million cubic yards of sand from Beach 19th to Beach 149th Street. Contract No.7 was completed by Weeks Marine Inc. in February 2001. The contract included beachfill placement of approximately 1.01 million cubic yards of sand from beach 119 to beach 66th street and beach 40th to beach 19th street. Contract No. 8 was awarded to Weeks Marine Inc. on September 29,2003. The contract includes beachfill placement of 1.06 million cy of sand between Beach 26th and Beach 108th Streets.

39. FIRE ISLAND INLET TO MONTAUK POINT, NY

Location. That portion of Atlantic Coast of Long Island in Suffolk County extending from Fire Island Inlet easterly to Montauk Point, NY about 83 miles long. This frontage comprises about 70 percent of total ocean frontage of Long Island. Fire Island Inlet is about 50 miles by water east of the Battery, New York. (See Coast and Geodetic Charts 13209, 12354 and 12353.)

Existing project. Provides for Federal participation in improvement to prevent beach erosion and hurricane damages by; widening beaches along developed areas between Kismet and Mecox Bay, to a minimum, width 100 feet at elevation 14 feet above mean sea level; raising dunes to an elevation of 20 feet above mean sea level from Fire Island Inlet to Hither Hills State Park, at Montauk and opposite Lake Montauk Harbor; planting grass on dunes; constructing gated interior drainage structures at Mecox Bay, Sagaponack Lake, and Georgica Pond; constructing up to 50 groins, if needed; and Federal participation in cost of beach nourishment.

Local cooperation. The New York State Department of Environmental Conservation is the local cooperating agency. The State agreed to provide necessary land, rights-of-way and borrow areas, and furnish 30 percent of the project costs for the Interim Project along the Moriches Inlet to Shinnecock Inlet reach of the authorized project. The State has also agreed to be the local sponsor for the comprehensive reformulation study of the authorized project and for interim project immediately west of Shinnecock Inlet.

Project history. On July 30, 1963, the State reflecting the desires of Suffolk County, requested the inclusion of a minimum of 13 groins in initial construction of Moriches-Shinnecock reach. Chief of Engineers concurred in inclusion of up to 13 groins. Assurances were executed by Superintendent of Public Works, State of New York, on August 14, and accepted by the District Engineer August 20, 1963. On February 5, 1964, the State requested consideration of a plan, as proposed by Suffolk County, for initial construction of 13 groins of which 11 would be in the Moriches-Shinnecock reach, and 2 in the Southampton-Beach Hampton reach vicinity of Georgica Pond, and that sandfill and dune construction be withheld for the present except for 1 mile on each side of Shinnecock Inlet. On February 27, 1964, the Chief of Engineers accepted the proposals, in part, and supplemental assurances were executed by State of New York on April 20, 1964, and accepted by District Engineer April 27, 1964, as follows: the State of New York now elects to proceed with authorized combined beach erosion control and hurricane protection project for South Shore of Long Island; that Superintendent of Public Works hereby reaffirms his assurance of August 14, 1963, relative to complete project; that State of New York, as cooperating agency, will now agree that artificial fills will be added when and to extent found necessary by the Chief of Engineers, but not earlier than 3 years after completion of groins unless both the State of New York and the Chief of Engineers mutually agree to an earlier placement; that the superintendent agrees
for State of New York to contribute the full amount of any increase in Federal costs resulting from the separate construction of the groins and subsequent fill; and that the State agree that construction of the two groins in the Georgica Pond area will depend on a favorable finding, following a study by the Chief of Engineers. Study was completed July 31, 1964, recommending construction, and approved by the Chief of Engineers on September 22, 1964. By letter dated November 5, 1964, the New York State Department of Public Works confirmed that title to all

properties and interests in properties necessary for constructing the 11 grains was fully vested in Suffolk County.

By letter dated December 7, 1964, the Department stated that the county had obtained easements or fee title for the parcels necessary for constructing the two groins. New York State Department of Public Works Furnished $884,600 and $830,330 required contributed funds October 30, 1964, and September 7, 1965, respectively, for construction of 11 groins in Moriches-Shinnecock reach and $439,900 on January 22, 1965, for construction of 2 groins in Georgica Pond area of the Southampton-Beach Hampton reach. The completed 2 groins and 11 groins were accepted by the New York State Department of Public Works for maintenance on May 11, 1966 and April 10, 1967 respectively.
On March 22, 1965, the State Recommended that planning priority be in the order; Southampton-Beach Hampton (Drainage structures first); Shinnecock Inlet-Southampton; Beach Hampton-Montauk Point; and Fire Island-Moriches Inlet. Planning on the drainage structures was initiated but was suspended, based on; meeting of October 28, 1965 with Georgica Pond Association and the Preservation Society of East End wherein concern was indicated regarding the effects of the proposed drainage structure on ecology, salinity, pond level and aesthetic values; meeting with the Congressional representative, State legislators, Federal agencies and local officials held on May 26, 1966; and resolution of the Suffolk County Board of Supervisors adopted June 13, 1966 requesting advancement of the planning of the Fire Island-Moriches Inlet reach (Fire Island National Seashore). On June 16, 1967, the New York State Department of Public Works requested the following works undertaken as immediate priority items; in Moriches-Shinnecock reach, beach and dine fill at 11 groins, beach and dune fill east of the 11 groins; in Southampton-Beach Hampton reach (at East Hampton), construction of two additional groins, and the outlet structure at Georgica Pond. On March 18, 1968 the Suffolk County Board of Supervisors adopted a resolution supporting construction of 4 groin in Reach 2 (Moriches-Shinnecock) and 2 groins in Reach 4 (Southampton-Beach Hampton). On April 22, 1968 the Board adopted a more inclusive resolution authorizing participation in beach erosion and hurricane protection for the Moriches-Shinnecock reach and in the Georgica Pond area of the Southampton-Beach Hampton reach.

On December 24, 1968, the Commissioner of the New York State Conservation Department executed the second supplement to the assurances of local cooperation, which was accepted by the District Engineer on January 24, 1969. The reaffirmed previous assurances contained provisions for constructing for additional groins in an area extending 6,000 feet west from the most westerly groin in the existing levee-groin field in the Moriches Inlet to Shinnecock Inlet Reach, and for placing beach and dune fill in this area to the full design cross section as defined in the authorized project report. A General Design Memo completed in 1980 recommended placement of sand fill in the existing 11 groin field and along 9,500 feet of shore to the west.

Condition as of September 30. Engineering and design began November 1962 and the project construction commenced in January 1965. Two groins in Reach 4; Southampton Beach Hampton, Section 3, were initiated in March, and completed in September 1964, at a total cost of $720,950 of which $382,109 were incurred against required contributed funds. Eleven groins in Reach 2: Moriches-Shinnecock, Section 2, were initiated in January 1965, and completed in October 1966 at a total cost of $2,845,656 of which $1,370,191 were incurred against required contributed funds. Initial beach fill placement for 750,000 cubic yards in Reach 2. Section 1A was completed on May 23, 1969. On August 4, 1969 work started on 4 groins and sandfill in Reach 2, section 1A and was completed November 14, 1970. 3,083 tons of stone and 1,111,000 cubic yards of sand was placed. Total cost for all Section 1A was $3,663,455 including $1,791,428 in required contributed funds. Funds in the amount of $70,000 were allotted on April 14, 1977 for initiation of the Phase 1 study in Reach 1, Fire Island Inlet to Moriches Inlet. The Final Environmental Impact Statement was filed with Environmental Protection Agency on January 28, 1978. On March 7, 1978, the Department of the Interior, supported by the other environmental resource agencies referred the Environmental Impact Statement to Council on Environmental Quality as unacceptable. On June 6, 1978 the Council agreed and recommended project reformulation.
Public meetings were held in October 1979 to delineate the scope and level of effort needed to reformulate the project. A final scoping session was held January 17, 1980 and agreement was reached between the Federal agencies although New York State had strong objections. A plan of study was completed in July 1980. However, because of New York State's inability to financially participate in construction at Westhampton Beach, reformulation was postponed.

Two breaches (new inlets) occurred in the vulnerable Westhampton area during periods of storm tides, one in Jan. 1980, just east of the Moriches Inlet, and the most recent in Dec. 1992, at the eastern end of Moriches Bay. Both breaches were filled in by contract, the last one completed in Sept. 1993, at a cost of $7 million.

In April 1993, the State provided a letter of intent to participate in an interim project for the Moriches Inlet to Shinnecock Inlet Reach. Based on this agreement in 1993 on a conceptual plan for the most critically eroded reach of

the authorized project between Moriches and Shinnecock Inlets, the Westhampton Interim Project, the Reformulation Study was reinitiated.

A construction contract for the Westhampton Interim Project was awarded in May 1996 to Great Lakes Dredge & Dock Company in the amount of $16 million. The contract was substantially completed in December 1997 and included beach placement of 4 million cubic yards of sand, dune creation, fencing and grass planting, groin modifications and construction of public dune walkovers. The first renourishment was completed in February 2001 at a cost of $5 million Renourishment is scheduled to continue at 3 year intervals until 2027. In January 1996, a Breach Contingency Plan was approved, which provides a mechanism for rapid response to breaches along the barrier island, within the authorized project.

The Reformulation Study, which has been consistently funded since 1993, is currently underway. Data has been collected including beach profile surveys and aerial topography maps of the entire 83mile long shoreline. Scoping for the preparation of an Environmental Impact Statement has been conducted. The study is scheduled to be completed in November 2006.

Due to the lack of non-Federal support, efforts on the Fire Island interim project have been deferred. It is currently anticipated that construction of an interim project West of Shinnecock Inlet could begin in the fall of 2004.

40. RARITAN BAY AND SANDY HOOK BAY, NJ

Location. Situated at the southern end of Lower New York bay between the Raritan River and Sandy Hook, in Middlesex and Monmouth Counties, NJ Shoreline area is typified by small developing communities built upon and near salt and freshwater marshes. The study area is largely located in low elevation regions with numerous small creeks providing drainage. Low-lying residential and commercial structures in the area are experiencing flooding caused by coastal storm inundation. Problem has progressively worsened due to loss of protective beaches and increased urbanization in the area with structures susceptible to flooding from rainfall and coastal storm surges, erosion and wave attack, combined with restrictions to channel flow in the tidal creek.

Existing project. Existing Federal project was authorized by the Flood Control Act of 12 October 1962 as a dual purpose Beach Erosion Control and Hurricane Protection Project in accordance with House Document No.464, 86th Congress, Second session. This project provided for beach fill, groins, and levees for various sections of the study area. The constructed project consists of segmented sections of beach fill and levees surrounding the communities at Old Bridge Township and Keanburg and East Keanburg. A study was authorized by a resolution of the Committee on Public Works and Transportation, U.S. House of Representatives, adopted August 1, 1990. The study seeks to determine the advisability to the recommendations in the authorizing report for Raritan Bay and Sandy Hook Bay, Section 506 of WRDA 1996 authorized periodic nourishment, if determined necessary, for a period of 50 years from initiation of construction of the period of 50 years from initiation of construction of the project, in accordance with section 156 of WRDA 1976 and Section 934 of WRDA 1986.

Local cooperation. The non-Federal sponsor, NJDEP, is currently cost sharing a number of Raritan Bay and Sandy Hook Bay, NJ feasibility studies with USACE: Port Monmouth, Union Beach, and Cliffwood Beach. The non-Federal sponsor would also be required to cost share in feasibility studies for the communities of Leonardo, Highlands and Keyport in order for them to proceed. (The non-Federal sponsor also operates and maintains the existing, constructed project).

Operation and results during period, and condition as of Sept. 30. Construction of the authorized project for Old Bridge Township was initiated in 1965 and completed in 1966. Construction of the shoreline portion of the authorized project for Keansburg and East Keansburg was initiated in 1968 and completed in 1969. Construction of the closure portion (levees, closure

gate and pumping station) of the authorized project for Keansburg and East Keansburg was initiated in 1970 and completed in 1973. Cliffwood Beach and Union Beach were the only portions of the authorized project that were not constructed. After construction of the closure work all of the completed works were formally turned over to the State of New Jersey in 1974.

A reconnaissance study was completed in March 1993. Subsequently, a feasibility study for Port Monmouth was initiated in February 1994, and for Union Beach and Cliffwood Beach in April 1997. In FY 2002, the final feasibility report and EIS for Port Monmouth were issued. Feasibility study activities for Union Beach and Leonardo continued. The feasibility study for Cliffwood Beach was completed by the project was not recommended for continued Federal involvement. The pre-feasibility activities for Highlands were finalized in preparation for a scheduled FY 2001 FCSA execution. Pre-feasibility activities continued for Keyport. A design agreement was executed with the NJDEP for the Raritan 934 (Keansberg, East Keansberg, Old Bridge) reevaluation study in November 1999. The study was initiated in January 2000.

This reevaluation report will serve as a basis for extension of periodic nourishment for the constructed portions of the existing project for Keansberg East Keansburg and Old Bridge Township.

41. ROCKAWAY INLET TO NORTON POINT (CONEY ISLAND AREA), NY

Location. Atlantic Coast of New York City, in Brooklyn (Kings County), approximately nine miles south of the Battery, New York City.

Authorized project. Authorized by the Water Resources Development Act of 1986. The authorized plan provides for beach erosion control by restoring the Coney Island public beach up to 250 feet beyond its historic shoreline; the extension of the westerly terminal groin; construction of a terminal groin at the easterly end of the restored beach, and a fillet of beachfill from the terminal groin at W. 37th Street extending approximately 2300 feet into the community of Sea Gate. The authorized plan also provides for restoration of the beach by periodic beach nourishment. The project was modified by the Intermodel Surface Transportation and Efficiency Act (ISTEA) of 1991 to include the relocation of existing comfort and lifeguard stations at full Federal expense. The total Federal cost of the project is $112,200,000 and non-Federal cost is $56,600,000. The project was further modified by Section 329 of WRDA 2000, which authorized the construction of T-groins west of the West 37th Street groin.

Local cooperation. The local sponsor is the NY State Department of Environmental Conservation. In accordance with the provisions of the Project Cooperation Agreement, the sponsor will; provide without cost to the United States all lands easements, and rights-of-way including borrow areas necessary for construction of the project, hold and save the United States free from claims for damages which may result from the construction works and subsequent maintenance of the project: provide a cash contribution toward the total first cost; assure that water pollution that would affect the health of bathers will not be permitted; assure continued conditions of public ownership and use of the shore upon which the amount of Federal participation is based, during the economic life of the project; maintain public use facilities open and available to all on equal terms and maintain all improvements after completion in accordance with regulations prescribed by the Secretary of the Army, including periodic nourishment during the economic life of the project as may be required to serve the intended purpose, subject to Federal participation in the cost of periodic nourishment for the economic project life.

Operations and results during period, and condition as of September 30. Initial construction of the beach and the West 37th Street jetty was completed in January 1995. The design of the comfort and lifeguard stations was completed in 1996. Adequate funding is not available to proceed with construction. Post-construction monitoring continued in FY ’01. A study was conducted that evaluated the causes of the accelerated beach erosion downdrift of the W. 37th Street groin and the sand accumulation along Gravesend Bay the study identified alternatives for a long-term solution. The report was completed in March 1998. The report recommended three alternative solutions. A draft limited re-evaluation report that includes an environment assessment of the alternatives is underway and scheduled to be finalized in FY 2004. The report recommends the construction of T- groins as a solution to the beach erosion and sand accumulation problems. Construction of the T-groins may begin in the fall of 2005 if Federal and State funds are available.

42. SANDY HOOK TO BARNEGAT INLET, NJ

Location. The northern portion of the Atlantic coast of New Jersey extending from Sandy Hook southerly to Barnegat Inlet-length about 48 miles. Erosion has seriously reduced the width of most beaches in the study area with consequent exposure of the shore to storm damage. Because of this erosion of the shore the area does not provide sufficient recreational beaches for the proper accommodation of the present and prospective tributary population.

SECTION I – SEA BRIGHT TO OCEAN TOWNSHIP, NJ

Location. That portion of the Atlantic coast of New Jersey in Monmouth County extending from Sea bright southerly to Ocean Township – length about 12 miles. Sea Bright is about 30 miles by water south of the Battery, New York City.

Authorized project. The Water Resources Development Act of 1988 (PL 100-670) authorized a plan substantially in accordance with the plan recommended in the General Design Memorandum for the project dated May, 1988. In general the plan provides for beach erosion control along approximately 12 miles of coastline, extending from Sea Bright southward to Ocean Township, New Jersey, by artificial placement of sand to widen the beach berm to 100 feet at an elevation of 10 feet above mean low water with an additional 2 foot high berm cap to provide an extra increment of protection from overtopping. The project also provides for the notching of 15 existing stone groins, and periodic nourishment throughout the 50 year economic life of the project. Existing storm outfall pipes are extended beyond the new , wider beach. Total estimated Federal cost for Section 1 is $461,200,000. Total

estimated non-Federal cost for all requirements of local cooperation is $248,400,000.

Local cooperation. Includes reconstruction of sea wall at Sea Bright and all lands easements, rights-of-way and drainage outfall extensions.

Operations and results during period and condition as of September 30. The Local Cooperation Agreement for Section I was executed with the State of New Jersey on July 30, 1992. Work under Contract 1A (Monmouth Beach) was completed in November 1995. Work under contract 1B (Sea Bright) was completed in October 1996. Construction on Contract 2 (Long Branch) began in May 1997 and was completed in September 1999. Plans and specifications for Contract 3 (Deal) are near completion but contract award is delayed indefinitely due to local real estate and funding issues. The first renourishment contract for Sea Bright and Monmouth Beach was awarded in August 2001. Sand placement commenced in Sea Bright in May 2002 and was completed in November 2002.

SECTION II – ASBURY PARK TO MANASQUAN, NJ

Location. That portion of the Atlantic coast of New Jersey in Monmouth County extending from Asbury Park southerly to Manasquan – length about 9 miles.

Authorized project. Provides for Federal participation in the restoration and protection of the shore from Asbury Park to Manasquan by artificial placement of sand to widen the beach berm to a minimum width of 100 feet at an elevation of 10 feet above mean low water with a 2 foot high berm cap. The project provides for the notching of 20 existing stone groins and periodic nourishment for a period of 50 years from construction. Existing outfall pipes are extended beyond the new wider beach. Total estimated Federal cost is $457,600,000. Total estimated non-Federal costs for all requirements of local cooperation is $246,400,000.

Operations and results during period and condition as of September 30. The local cooperation agreement for Section II was executed with the State of New Jersey on August 20, 1996. The contract for the Southern Reach (Belmar to Manasquan) was awarded in March 1997. Construction began in June 1997 and was completed in August 1999. The award of the Northern Reach (Asbury Park to Avon-by-the-Sea) contract was in June 1999. Beachfill placement commenced in July 1999 and was completed in December 1999. Work on the groin notching and outfall extensions was completed in January 2001. The first renourishment contract is currently scheduled to start in the summer of 2005 if Federal funds are available.

43. OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

(See Table 2-H at end of chapter)

44. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION

Beach Erosion Control activities pursuant to Section 103 Publ. Law 826, 84th Congress as amended (See Table 2-O at end of chapter).

Flood Control

45. THE HACKENSACK MEADOWLANDS AREA, NJ

Location. The project location is the Hackensack Meadowlands River Basin in Bergen and Hudson Counties, New Jersey.

Existing project. The program was authorized by Section 324 of the Water Resources Development Act of 1992 and amended by Section 550 of the Water Resources Development Act of 1996. The program was authorized for $5,000,000. The objective of the program is to provide design and construction assistance for the development of the Environmental Improvement Program within the Hackensack Meadowlands District of New Jersey. The intent of the program is to assist the New Jersey Meadowlands Commission in: tide gate improvements to control flooding in the Berry's Creek drainage basin, the mitigation, enhancement and acquisition of wetlands, the development and implementation of a system to provide for water quality monitoring and wetland control in the Hackensack Meadowlands River Basin. A hydraulic modeling study of the Hackensack River will be performed and it will also examine a proposed tide gate on Berry's Creek, among other alternatives. The Corps of Engineers Engineer Research and Development Center is performing the modeling study.

Local cooperation. The non-Federal sponsor is the New Jersey Meadowlands Commission (NJMC).

Operations and results during the period and condition as of September 30. The General Management Plan, which outlines the management process for implementing the program, was completed in October 1998. A total of $2.5 million was appropriated for the program in FY 1996. The design agreement was executed between the Corps of Engineers and the NJMC in March 2000. The parent model and two child models have been

completed. Two additional child models are scheduled to be completed in 2004.

46. JOSEPH G. MINISH PASSAIC RIVER WATERFRONT AND HISTORIC AREA, NJ

Location. The project area is located along the west bank of the Passaic River between Bridge and Brill Streets in the City of Newark, New Jersey. This reach of the Passaic River is eroded, deteriorated and environmentally degraded due to past heavy commercial and industrial use and flooding. The most recent flooding occurred in December 1992. In light of the renewal of the commercial downtown area of Newark near the Passaic River, the project area is viewed as an environmental resource to be restored.

Authorized project. The project was authorized in the Water Resources Development Act (WRDA) of 1990 (Public Law 101-640) as an element of the Passaic River Flood Damage Reduction Project on November 28, 1999, modified in the Water Resources Development Act of 1992 (Public Law 102-580) by extending the project area, and further modified in the Water Resources Development Act of 1996 (Public Law 104-303).

The project has three phases. The first phase will provide 6,000 feet of new bulkhead, 3,200 feet of restored riverbank and wetlands. The second phase adds a 9,200 foot waterfront walkway and the third phase adds park facilities, plazas and landscaping. Links to the Arts Center, Riverbank Park, and other sites will also be provided. The project will reduce the flooding and erosion and provide environmental restoration, recreation and economic development benefits. The cost of the first phase is $37,300,000, adding the second phase increases the cost to $60,000,000 and the third phase brings the total project cost to $78,800,000. The sponsor of the first phase is the New Jersey Department of Environmental Protection and cost sharing is set a 75% Federal and 25% non-Federal. The State may reduce its share through credit provisions in WRDA 1992. The credit consists of the value of lands in the basin that the State puts into wetlands bank.

Local cooperation. Project will be operated and maintained by sponsor as each portion is completed.

Operations and results during period and condition as of September 30. Construction on the first phase started in September 1999 and 1,700 feet of new bulkhead is complete. Additional appropriations will be required to complete the first phase. Interest is also being expressed by the city of Newark by its letter of March 7, 2000 will sponsor the second and third phases. Design efforts and a project cooperation agreement will be prepared.

47. NEW YORK CITY WATERSHED ENVIRONMENTAL ASISTANCE PROGRAM, NY

Location. The project location is the New York City Watershed, which is located within the following counties in New York State: Delaware, Greene, Schoharie, Ulster, Sullivan, Westchesteer, Putnam and Dutchess.

Existing project. The program was authorized by Section 552 of the Water Resources Development Act (WRDA) of 1996 and amended in WRDA 1999. The program was authorized for $42,500,000 in Federal funds. The objective of the program is to provide design and construction assistance for water-related environmental infrastructure and resource protection and development projects in the New York City Watershed, including projects for water supply, storage, treatment and distribution facilities and surface water resource protection and development. Twenty-eight projects have been certified by the New York State Department of Environmental Conservation (NYSDEC) and recommended for implementation. The types of projects include stream restoration, installation of sanitary sewer lines, stormwater studies, pathogen monitoring, planning and implementation of agricultural non-point source pollution reduction and watershed protection training.

Local cooperation. The non-Federal sponsor is the NYSDEC. The projects will be accomplished by the local sponsors, the New York City Department of Environmental Protection, municipalities and counties.

Operations and results during the period and condition as of September 30. The General Management Plan, which outlines the management process for implementing the program, was completed in September 1998. A total of $13 million has been appropriated for the program in FY 1997 through 2003. The request for proposals, under which the proposed projects were submitted, evaluated and certified for implementation, was completed in February 1999. A total of 23 Project Cooperation Agreements have been executed to date Discussions with the local sponsors and negotiations of the PCA's for the other certified projects are underway.

48. PASSAIC RIVER BASIN, NJ & NY

Location. The Passaic Basin, comprising 787 square miles in northeastern New Jersey and 148 square miles in southern New York State, is located

in the greater New York City Metropolitan area. The Passaic River Basin is roughly elliptical in shape 26 miles long and 56 miles wide – and contains portions of Bergen, Essex, Morris, Passaic, Hudson, Somerset, Sussex and Union Counties in New Jersey. The Basin also includes parts of Orange and Rockland Counties in New York.

Previous projects. Three Federal flood control projects have been completed by the Corps of Engineers in the Passaic River Basin. A $67,400 de-snagging, debris removal, and channel restoration project was completed in 1951 along Beaver Brook and the Pequannock Township Ditch, tributaries of the Pompton River in Pequannock Township, NJ.

Along the Pompton River, a channel clearing project including shoal removal and channel restoration was implemented in the two mile reach from the Delaware, Lackawanna and Western Railroad Bridge to the Erie Railroad (Greenwood Lake Branch) Bridge. This work, in Pequannock Township, Wayne Township and Lincoln Park Borough, NJ, was completed in 1954 at a cost of $50,000.

A $1.5 million basin-wide project to improve the Flood Warning and Preparedness System was completed in 1988. The project was implemented by the Corps of Engineers in conjunction with the National Weather Service and U.S. geological Survey, The State of New Jersey is the non-Federal sponsor of the project.

Project history. U.S. Army Corps of Engineers involvement in Passaic River planning was first authorized in the Flood Control Acts of 1936. Since then reports recommending plans of action were issued in 1939, 1948, 1962, 1972, and 1973. None of these plans were implemented because they did not receive widespread public support. In 1976, Congress authorized a Phase I Advanced Engineering and Design Study in Section 101(a) of the Water Resources Development Act of 1976. Congressional Guidance on the conduct of the study was provided in House Report 94-1702. Local protection plans were completed for tributary flood damage areas along the Ramapo and Mahwah Rivers at Mahwah, NJ, and Suffern, NY, Molly Ann's Brook at Haledon, Prospect Park and Paterson, NJ, the Ramapo River at Oakland, NJ, and the Lower Saddle River in Bergen County, NJ. These projects were authorized in the Water Resources Development Act of 1986. Construction began on the Molly Ann's Brook project in 1995. The Ramapo River at Oakland project received construction funds in Fiscal year 1995 and was reauthorized in WRDA 1996 and in the Energy and Water Development Appropriate Act of 2001.

In April 1984, the Passaic Basin experienced flooding estimated to be the worst in 40 years. In June 1984, the State of New Jersey selected a dual inlet diversion tunnel plan as the preferred Bain-wide alternative for detailed plan formulation. The Phase I General Design Memorandum and draft Environmental Impact Statement, (EIS), recommending the Pompton River/Passaic Dual Inlet Tunnel Diversion Plan, were completed during FY 1998. The final EIS was filed with EPA in December 1988.

Section 101(a) 18 of the Water Resources Development Act (WRDA) 1990 (PL 101-640), as modified by section 102(p) of WRDA '92 (PL 102-580) authorizes construction of the Passaic River Flood Protection Project for the Passaic River Basin which will address both environmental and engineering objectives of the Act. The Passaic River Flood Protection Project combines diversion tunnels, levees, flood walls channel modification, and natural flood storage to provide flood protection to about 35 towns in the Passaic River Basin.

Pre-construction, Engineering and Design for the Passaic River Flood Protection Project was initiated in FY 1989 and is continuing with preparation of a General Design Memorandum and Supplemental Environmental Impact Statement with accompanying project cost estimate, and update of buy-out plans. A draft report was completed in Sept. 1995.

The final report was completed in July 1996 with the State's decision to implement various separable clients as described below. Engineering and design for the Joseph G. Minish, Passaic River Waterfront Part and Historic Area project element, consisting of environmental and streambank restoration measures in the city of Newark was completed in May 1996.

Condition as of September 30. Construction has been completed on Molly Ann's Brook. Construction is continuing on the Ramapo River at Oakland and Joseph G. Minish Passaic River and Waterfront Park and Preservation of the Natural Storage Areas. The purchases of the national flood storage areas is underway. The Saddle River, Harrison Levee Project, Mahwah River projects, and Passaic River Floodway Buyout are in the design phase.

49. PRESERVATION OF NATURAL FLOOD STORAGE – PASSAIC RIVER FLOOD DAMAGE REDUCTION REPORT, NJ

Location. Flooding has long been a problem in the Passaic River Basin. Since colonial times, floods have claimed lives and damaged property. The most severe flood, the "flood of record", occurred in 1903, and more recent floods in 1968, 1971, 1972, 1973, two in 1975, 1984 and 1992 were sufficiently devastating to warrant Federal Disaster declarations. The flood of 1984 resulted in the

loss of three lives and caused $493 million in damages (October 1994 dollars).

Authorized project. The U.S. Army Corps of Engineers has been working on plans to reduce flooding in the basin since 1936, but no plan has yet been implemented. Congress authorized a new study of the Passaic River Basin for the State of New Jersey in the Water Resources Department Act (WRDA) of 1976 (Public Law 94-587) which led to a plan authorized in WRDA 1990 and modified in WRDA 1992. The project includes several elements (see separate fact sheet on Passaic River). The element described herein is the Preservation of Natural Flood Storage Areas which the State has asked to Corps to implement. The Preservation element includes the acquisition of 5,350 acres of natural storage areas. 5,200 acres of which are wetlands and could conceivably be developed, worsening existing flood problems. The State of New Jersey has an agreement with the Corps to continue to protect 6,300 floodway acred, thus avoiding any secondary development. About 9,500 acres of the Central Basin are already protected as designated parkland, bringing the total of natural storage areas that would be permanently protected with the project to 21,000 acres. The Preservation element will prevent flood damages from becoming worse. It will not reduce flooding in the Passaic River Basin. The cost sharing is set a 75% Federal and 25% State. The State may reduce its share by applying credits included in the authorization.

Local cooperation. Project lands will be operated and maintained by non-Federal sponsors as each parcel is acquired.

Operations and results during period and condition as of September 30. The General Design Memorandum for the element was completed in July 1996 and the State has requested that the Corps proceed with its implementation. Project Cooperation Agreement was signed in 1999. Purchases started in spring 2000 and continue. 1300 acres have been acquired to date. Total estimated Federal cost is $20,400,000. Total non-Federal costs for all requirements of local cooperation is $1,700,000.

50. RAMAPO RIVER AT MAHWAH, NEW JERSY & SUFFERN, NY

Location. Flooding has occurred frequently on the Ramapo River, with flood events in 1968, 1971, 1973, 1977, 1979, 1980, 1983, 1984, 1987, 1996, and 1999. The 1977 and 1984 floods were the most severe causing extensive damages to the project area. Tropical Storm Floyd in September 1999 also cause significant damage.

Authorized project. The Ramapo River and Mahwah Rivers Flood Control Project is authorized for construction under the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662). The authorized project involves the construction of features for flood protection along the Ramapo and Mahwah Rivers in Mahwah, NJ and Suffern, NY. The authorized plan for flood damage reduction includes channel modification to approximately 13,000 feet of the Ramapo River, Mahwah River, and Masonicus Brook. The modifications would include the widening and deepening of the channels, sheet pile walls, and bridge modifications. The project will provide protection to residential, commercial, and industrial developments in Suffern and in Mahwah.

Local Cooperation. The non-Federal sponsors, New York and New Jersey will sign a project design agreement summer 2002. Assuming a favorable project is recommended and implemented, a construction project cooperation agreement would be executed and upon completion of constuction the project would be turned over to the non-Federal sponsors for operation and maintenance. The sponsors will also provide all lands required for the project.

Condition as of September 30. The project design memorandum was completed and approved in September 1987. Plans and specifications were substantially complete in 1990. Construction funds were appropriated, but work was never initiated due to the lack of project cooperation agreements. After the flooding in 1999, the involved States, counties, and towns expressed interest in resuming the project. Letters of support from New York and New Jersey documented the interest and requested an update of the project to determine whether further interest is warranted. A project management plan has been developed. An updated design is underway.

51. RAMAPO RIVER AT OAKLAND, NJ

Location. The project involves the construction of features for flood protection along the Ramapo River from Pompton Lake in Wayne Township and the Borough of Pompton Lakes, upstream through the Borough of Oakland to West Oakland Avenue, a distance of 3.3 miles.

The principal problem along the Rampo River is flooding caused by backwater effect produced by the Pompton Lake Dam, the hydraulic construction produced by bridges crossing the river, and insufficient channel capacity. Flooding has occurred frequently, with the most recent events in 1968, 1970, 1971, 1973, 1977, 1978, 1979, 1980, 1983, 1984, 1987, 1993 and as September 1999 from Tropical Storm Floyd.

Authorized project. The Ramapo River was studied as part of the Passaic River Basin Phase I Advanced Engineering and Design Study which was authorized by the Water Resources Development Act of 1976 (Public Law 94-587, October 22, 1976). Congressional guidance for the for the conduct of the study is included in House of Representatives report 94-1702. The study was authorized for construction under the Water Resources Development Act (WRDA) of 1986 (Public Law 99-62) and reauthorized in WRDA 1996 (PL 104-303). The sponsor is the New Jersey Department of Environmental Protection. The authorized plan for flood damage reduction along the study area includes channel modification of 5,800 feet of the Ramapo River. The authorized plan also calls for the installation of flood control gates at the existing Pompton Lake Dam. Mitigation for the environmental impacts of the plan includes the creation of a five acre wetland in Potash Lake. The recommended plan would provide a consistent 40 year level of protection to the project area. The plan has an estimated cost of $21,600,000. The cost is shared by the Federal Government (75%) and the State (25%). The State share includes the cost for all lands easements, and right-of-way as well as a cash contribution. The State share may be reduced through the use of credits available for Passaic River Basin projects\

Local cooperation. Non-Federal sponsor will operate and maintain project once construction is complete and project is turned-over to sponsor.

Operations and results during period and condition as of September 30. Engineering and design commenced in October 1987. The final general Design Memorandum was completed in May 1994 and approved in July 1994. Permits were issued in January 1999. The Project Cooperation Agreement was executed in April 1999. The channel modification and wetland creation are substantially complete. This construction is followed by the ongoing installation of the flood control gates.

52. RARITAN RIVER BASIN GREEN BROOK SUB-BASIN, NJ

Location. The Green Brook Basin lies in central New Jersey within the counties of Somerset, Middlesex and Union and is one of the major tributaries in the Raritan River Basin. The Green Brook, which originates in the Watchung Mountains, has a 65 square mile watershed. The bell shaped basin widens markedly as Green Brook flows southwesterly to its mouth at the Raritan River.

Project History. The Green Brook Flood Control Project is the result of efforts over the past three decades by the U.S. Army Corps of Engineers, other Federal agencies, state and local agencies, civic organizations and the general public. In 1968, a reconnaissance investigation was conducted, under the Corps of Engineers Continuing Authority Program for small projects, for Ambrose, Bound and Bonygutt Brooks. The resulting report recommended further study all three locations. Detailed project reports concluded that individual flood protection projects were not economically feasible at any of the locations. Subsequently, record floods occurred in 1971 and again in 1973, causing catastrophic damage throughout the basin. As a result of the devastating events, the need for basin-wide studies of the entire Green Brook Basin was apparent. The Corps of Engineers, North Atlantic Division (NAD) issued the *Feasibility Report for Flood Control, Green Brook Sub-Basin*, dated August 1980. The plan recommended in this report consisted of a system of levees and floodwalls to provide protection against a 150 year flood in the lower portion of the Green Brook Basin only. A more comprehensive, basin-wide solution would have also extended 150 year protection to the upper and Stony Brook portions of the basin. The Board of Engineers for Rovers and Harbors (BERH) reviewed the NAD report and issued its report on 16 March 1981, in which they endorsed all plan formulation decisions in the 1980 Feasibility Report. However, the BERH also stated the "the recommended 150 year level of protection is inadequate for this highly urbanized floodplain". To avoid catastrophic consequences of levee overtopping, the BERH recommended protection to 500 year level. The Chief of Engineers Report dated 4 September 1981. In February 1984, the Secretary of the Army expressed the administration's views in his letter transmitting the report to Congress in which he recommended that the August 1980 report should be authorized.

The Water Resources Act of 1986 authorized construction of a project, providing protection in all three portions of the Green Brook Basin. Section 401a of the Water Resources Development Act (WRDA) 1986 authorized construction of the Green Brook Flood Control Project for the Green Brook Sub-basin, which will address both environmental and engineering objectives of the Act. The Green Brook Flood Control Project combines levees, floodwalls, channel modification, flood proofing, and natural flood storage to provide flood protection to about 13 municipalities in the Green Brook Sub-basin

On the basis of this authorization, funds were budgeted and appropriated for preconstruction engineering and design. Surveying, mapping and other studies necessary to provide the basis for actual construction commenced toward the end of 1986. However, delays wee incurred due to conflict between the needs and desires of the non-Federal sponsor and national economic development which affected the quest for a comprehensible implementable plan. In January 1994, a general reevaluation study was initiated. Unfortunately, the area was hit with another record storm in

September 1996 causing more damages, the draft General Reevaluation Report was issued in December 1996 and opened for public comment for the period between January 7 and March 7, 1997. As a result comments expressed with significant concerns over the flood protection plan proposed for the upper portion of the basin, the Corps and the NJDEP agree to defer action on the flood protection plan for the upper portion of the basin. The Final General Reevaluation Report and Supplemental Environmental Impact Statement was approved in May 1997 with the support of the New Jersey Department of Environmental Protection (NJDEP) who is the non-Federal sponsor for the project. In FY 1998, an Upper Basin Task Force (UBTF) was formulated to develop potential plan alternatives to the upper basin. The UBTF released their final report on November 12, 1998. In September 1999, again the area saw another record storm which not only caused catastrophic damage but resulted in 3 deaths. The Corps of Engineers, New York District released a Project Study Plan (PSP) to determine the feasibility of the alternatives discussed in the UBTF report in June 2000.

Pre-construction Engineering and Design for the Green Brook Flood Control Project was initiated in FY 1997 and the Project Cooperation Agreement

(PCA) between the NJDEP and the Federal Government was executed on June 24, 1999.

Condition as of September 30. The first construction contract was awarded on September 29, 2000 to begin work in the lower portion of the basin which includes a temporary bridge demolition, replacement of a bridge and demolition of 3 houses on East Street of Bound Brook. As a result of the 1999 storm event, a resolution was submitted by Middlesex Borough in October 1999 requesting buyouts along Prospect Place and Raritan Avenue. In August 2001, the Federal Emergency Management Agency (FEMA) purchased houses on Raritan Avenue under their Hazard Mitigation Program and are scheduled to be demolished by November 2001. The Corps of Engineers, New York District reviewed alternatives to the proposed flood proofing measures for the remaining structures and determined that the Locally Preferred Plan (LPP) of voluntary buyouts is the recommended alternative. Act language to authorize this project change is expected in WRDA 2002. Buyout offers were extended to 22 properties on Prospect Place in Middlesex Borough.19 properties accepted the buyouts and these properties were obtained by 31 December 2002. Demolition began in December 2002 and was completed in July 2003. In addition, the levee system in the Borough of Bound Brook was reanalyzed, and construction began 2nd quarter 2002.

53. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspections of the following completed flood control works and beach eros
ion and hurricane protection projects were performed to determine the extent of compliance by local interests with operation and maintenance requirements.

New England Inspection Date:

Adams, MA – Hoosie River	Oct. 03
Bennington, VT – Roaring Branch, Walloomsac River	Sept.03
East Barre Dam, VT – Jail Branch Winooski River	Sept. 03
Montpelier Dam, VT – Winooski River	Sept. 03
North Adams, MA – Hoosie River	Oct. 03
Richford, VT – Missiquoi River	Sept. 03
Waterbury Dam, VT – Little River	Sept. 03
Wrightsville Dam, VT – North Branch Winooski River	Sept. 03

NY – NJ Areas

*E. Rockaway Inlet to Rockaway Inlet	Oct. 99
Elizabeth, NJ – Elizabeth River	Jul 03
*Fire Is. Inlet to Montauk Rt., NY	Oct. 03
Herkimer, NY – Bellinger Brook & Mohawk River	Oct. 03
Holland Patent, NY – Thompson Creek	Oct. 03
Hoosic Falls, NY – Hoosic River	Oct. 03
Kingston, NY – Esopus Creek	Oct. 03
North Ellenville, NY – Beer & Fantine Kills & Snadburg Creek	Sept. 03
Rahway, NJ – Rahway River, S.Branch Rahway River	Aug 03
*Raritan Bay & Sandy Hook Bay, NJ	
Old Bridge, Keansburg & Middletown, NJ	NI
Rosendale, NY – Roundout Creek	Oct. 03
So. Amsterdam, NY – S. Chuctanunda Creek & Mohawk River	Oct. 03
S. Orange NJ – E. Branch, Rahway River	Jul 03
Yonkers, NY – Saw Mill River	Apr 03
Chappaqua, NY – Saw Mill River	May03
Ardsley, NY – Saw Mill River	Jun 03
Sandy Hook to Barnagat Inlet, NJ	NI
Ballston Spa- Kayadersoseras Creek,NY	Oct. 03
Highland Mills- Woodbury Brook, NY	Oct. 03
Mt. Pleasant- Esopus Creek, NY	Oct. 03
Mt.Tremper- Esopus Creek, NY	Oct. 03
Pleasant Valley- Wappinger Creek,NY	May 03
Lincoln Park/Pequannock-	Sep. 03

Beaver Brook,NJ	
Shandaken- Esopus Creek, NY	May 03
Wallkill River- Wallkill River	May 03
*Beach Erosion & Hurricane Protection Projects	NI

(NI= Not Inspected FY 2003)

54. OTHER AUTHORIZED FLOOD CONTROL PROJECT

(See Table 2-1 at end of chapter.)

55. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood Control activities pursuant to Section 205, Public Law 858, 80th Cong. As amended Pre-authorization. (See Table 2-P at end of chapter)

Chapter 1 Natural Disaster and Emergency Flood Control Activities. Pursuant to Public Law 84-99 and antecedent legislation provides for disaster preparedness, emergency operation, rehabilitation, advance measures, emergency water, and drought assistance.

Under disaster preparedness, the New York district initiated revisions to emergency response plans to include lessons learned from previous disasters, attended meetings and seminars dealing with emergency response planning and purchased supplies and equipment to maintain its' flood fight and response capability.

Under emergency operations, the New York District conducted field investigations, provided technical assistance and sandbags to local and county government in response to flooding events.

In response to Presidential disaster declarations under P.L. 93-288 the New York District received mission assignment from the Federal Emergency Management Agency (FEMA) for Temporary Housing, ESF#3, AND Debris Management during Hurricane Isabel in September 2003.

General Investigations

56 SURVEYS

(See Table 2-J at end of chapter.)

57. COLLECTION AND STUDY OF BASIC DATA

Costs for the period of $143,839 for flood plain management services are set forth in Table 2-L at the end of chapter.

58. DEAUTHORIZED PROJECTS

Projects having all, or inactive or uncompleted portions de-authorized by Congressional Action pursuant to Water Resources Development Acts
(See Table 2-M at end of chapter)

TABLE 2-A COST AND FINANCIAL STATEMENT

	Projects Funding		FY00	FY01	FY02	FY03	Total Coast to Sept 30, 2003
1.	Aquatic Plant Control	New Work Approp.	311,000	300,000	300,000	400,000	3,641,183[1]
		Cost	311,571	298,664	298,672	398,860	3,636,717[2]
2.	Arthur Kill Channel Howland Hook Marine Terminal , NY&NJ	New Work Approp.	—	800,000	146,000	—	6,528,918
		Cost	—	716,187	209,184	85,747	6,614,665
		Maint. Approp.	—	—	—	—	—
		Cost	—	—	—	—	—
3.	Burlington Harbor, VT	New Work Approp.	—	—	—	—	706,414
		Cost	—	—	—	—	706,414
		Maint. Approp.	283,117	2,138,850	2,283,000	704,000	6,550,850
		Cost	283,117	2,123,391	2,296,601	706,856	6,551,984
4.	East River, NY	New Work Approp.	—	—	—	—	32,750,745
		Cost	—	—	—	—	32,723,662
		Maint. Approp.	242,089	249,387	1,727,625	62,000	8,277,584
		Cost	242,089	247,762	1,727,375	62,000	8,274,620
5.	East Rockaway Inlet, NY	New Work Approp.	—	—	—	—	83,969
		Cost	—	—	—	—	533,334
		Maint. Approp.	136,000	2,236,562	440,000	1,625,000	23,117,122
		Cost	136,502	2,230,106	446,455	1,621,846	23,127,022
6.	Fire Island to Jones Inlet, NY	New Work Approp.	4,239,734	489,000	9,453,300	572,000	54,911,000[3]
		Cost	1,710,337	6,381,366	-19,321	504,876	54,634,783
		Maint. Approp.	2,303,000	147,269	3,528,000	299,000	28,338,319
		Cost	2,331,840	147,268	3,527,849	292,959	27,709,749
7.	Flushing Bay and Creek, NY	New Work Approp.	—	—	—	—	2,182,905
		Cost	—	—	—	—	2,182,905
		Maint. Approp.	293,000	372,946	261,000	4,335,000	14,106,748
		Cost	293,001	372,412	2,230,106	4,335,057	14,106,455
8.	Glen Cove Creek, NY	New Work Approp.	—	—	—	—	165,882
		Cost	—	—	—	—	165,882
		Maint. Approp.	694,599	1,300,000	1,572,000	175,000	3,984,358
		Cost	694,598	1,298,939	1,572,002	174,844	3,983,142
9.	Great Kills Harbor NY	New Work Approp.	—	—	—	—	—
		Cost	—	—	—	—	—
		Maint. Approp.	—	—	1,120,000	435,000	1,555,000
		Cost	—	—-	1,120,000	434,751	1, 554,751
10.	Great South Bay, NY	New Work Approp.	—	—	—	—	—
		Cost	—	—	—	—	—
		Maint. Approp.	—	—	—	70,000	70,000
		Cost	—	—	—	70,000	70,000

TABLE 2-A (Continued) COST AND FINANCIAL STATEMENT

Projects	Funding	FY00	FY01	FY02	FY03	Total Coast to Sept 30, 2003
11. Hudson River, NY	New Work					
	Approp.	—	—	—	—	44,249,800[4, 5]
	Cost	—	—	—	—	44,249,865
	Maint.					
	Approp.	1,895,000	3,689,000	2,655,000	4,988,000	68,592,450[6, 7]
	Cost	3,501,224	1,713,221	3,776,614	4,992,378	68,432,076
12. Hudson River, NY	New Work					
(New York City to	Approp.	—	—	—	—	9,290,000
Waterford: Athens Channel)	Cost	32,264	396,043	444,506	268,925	1,377,525
13. Jamaica Bay, NY	New Work					
	Approp.	—	—	—	—	4,545,750
	Cost	—	—	—	—	4,454,75
	Maint.					
	Approp.	470,000	1,286.968	140,000	2,190,000	16,426,718
	Cost	470,500	1,286,475	140,493	2,145,241	16,319,767
14..Jones Inlet, NY	New Work					
	Approp.	—	—	—	—	1,822,530
	Cost	—	—	—	—	1,822,530
	Maint.					
	Approp.	50,000	18,570	46,000	60,000	24,170,070
	Cost	50,275	18,571	44,674	61,326	24,170,070
15.Kill Van Kull-Newark	New Work					
	Approp.	28,580,000	46,216,000	34,678,658	2,864,000	402,563,617[8]
	Cost	10,398,616	35,858,098	45,477,510	5,624,194	402,305,518
16. Lake Montauk Harbort, NY	New Work					
	Approp.	—	—	—	—	791,680
	Cost	—	—	—	—	791,680
	Maint					
	Approp.	590,570	10,000	10,000	76,000	2,089,633
	Cost	590,571	10,012	9,443	76,557	2,089,633
17. Long Island Intracoastal	New Work					
Waterway, NY	Approp.	—	—	—	—	235,964
	Cost	—	—	—	—	235,964
	Maint					
	Approp.	130,000	324,291	2,338,000	1,635,000	16,634,462
	Cost	131,924	288,379	2,373,450	1,634,452	16,633,453
18. Mattituck Harbor, NY	New Work					
	Approp.	—	—	—	—	681,811
	Cost	—	—	—	—	681,811
	Maint					
	Approp.	—	—	—	116,000	116,000
	Cost	—	—	—	115,607	115,607
19. Moriches Inlet, NY	New Work					
	Approp.	—	—	—	—	9.801,000
	Cost	—	—	—	—	9.799,000
	Maint					
	Approp.	138,125	74,893	77,000	35,000	1,399,440
	Cost	40,961	64,694	113,964	60,562	1,351,766
20. Narrows of Lake	New Work					
Champlain, NY	Approp.	—	—	—	—	681,811
	Cost	—	—	—	—	681,811
	Maint					
	Approp.	207,000	794,900	307,000	90,000	3,148,265
	Cost	208,949	767,837	333,002	69,569	3,049,183

TABLE 2-A (Continued) COST AND FINANCIAL STATEMENT

Projects	Funding	FY00	FY01	FY02	FY03	Total Coast to Sept 30, 2003
21. New York Harbor and	New Work					
Adjacent Channels,	Approp.	715,000	580,000	25,000	1,113,667	6,022,516
	Cost	538,514	713,009	232,788	296,560	5,181,436
22. New York and	New Work					
New Jersey Channel	Approp.	—	—	—	—	73,052,435
	Cost	—	—	—	—	73,052,435
	Maint					
	Approp.	656,000	4,837,549	355,000	5,937,000	58,678,639
	Cost	668,153	4,826,836	365,403	5,883,246	58,666,797
23. New York Harbor-	New Work					
Collection and	Approp.	358,000	—	-119,000	—	45,980,000
Removal of Drift	Cost	228,592	42,729	5,187	—	45,962,183
	Maint					
	Approp.	4,623,000	4,810,000	4,855,000	6,350,489	124,846,739 [9]
	Cost	4,570,944	4,859,837	4,855,000	6,350,435	120,113,368
24. New York Harbor-	New Work					
Entrance Channels &	Approp.	—	—	—	—	45,009,710
Anchorage Areas	Cost	—	—	—	—	45,009,710 [10]
	Maint.					
	Approp.	8,544,000	3,260,000	3,825,000	3,529,000	114,497,170
	Cost	8,442,420	3,437,544	3,852,541	3,242,402	114,205,479
25. New York and	New Work					
New Jersey Harbor	Approp.	—	—	49,363,842	110,819,333	165,357,827 [11]
NY & NJ	Cost	—	—	34,936,273	100,132,387	139,854,381
26. NewarkBAY,Hackensack	New Work					
Passaic Rivers,NJ	Approp.	—	—	—	—	29,014,500
	Cost	—	—	—	—	29,014,500
	Maint.					
	Approp.	—	1,039,742	1,491,000	250,000	2,780,742
	Cost	—	1,036,853	387,369	1,356,476	2,780,698
27. Plattsburgh Harbor,NY	New Work					
	Approp.	—	—	—	—	198,415
	Cost	—	—	—	—	198,415
	Maint.					
	Approp.	—	220,000	2,211,869	650,000	3,338,284
	Cost	—	188,022	2,197,451	664,134	3,306,022
28. Raritan River, NJ	New Work					
	Approp.	—	—	—	—	1,551,470
	Cost	—	—	—	—	1,551,470
	Maint.					
	Approp.	2,418,000	124,742	—	70,000	18,623,011
	Cost	2,418,271	124,742	—	70,000	18,623,011
29. Raritan River, To Arthur	New Work					
Cutoff Channel, NJ	Approp.	—	—	—	—	810,510
	Cost	—	—	—	—	810,510
	Maint					
	Approp.	972,000	38,775	—	—	4,931,356
	Cost	972,778	38,775	-1,000	1,000	4,931,356
30. Sag Harbor. NY	New Work					
	Approp.	—	—	—	—	121,805
	Cost	—	—	—	—	121,805
	Maint.					
	Approp.	355,000	1,614,559	3,188,000	1,700,000	6,880,532
	Cost	366,264	1,614,386	3,187,980	1,463,475	6,643,814
31. Shark River. NJ	New Work					
	Approp.	—	—	—	—	150,000
	Cost	—	—	—	—	150,000
	Maint.					
	Approp.	—	—	96,000	1,081,000	5,384,185
	Cost	—	—	96,000	1,080,991	5,384,177

TABLE 2-A (Continued) COST AND FINANCIAL STATEMENT

Projects	Funding	FY00	FY01	FY02	FY03	Total Coast to Sept 30, 2003
32. Shinnecock Inlet. NY	New Work Approp.	—	—	—	—	14,863,000
	Cost	—	—	—	—	14,823,090
	Maint. Approp.	100,470	1,455,699	166,000	1,281,000	6,811,715
	Cost	105,510	1,453,835	166,587	1,279,599	6,764,926
33. Supervisor of New York Harbor	New Work Approp.	747,000	740,000	867,000	714,000	38,840,960
	Cost	729,765	763,192	868,908	713,518	38,840,464
37. Long Beach Island NY	New Work Approp.	—	-259,000	-259,000	325,000	2,848.000
	Cost	115,031	115,031	77,530	216,007	2,678,589
38. East Rockaway Inlet to Rockaway Inlet and Jamaica Bay, NY	New Work Approp.	1,547,000	4,088,000	174,700	648,583	53,355,972 [12]
	Cost	1,421,411	3,707,862	253,699	348,134	51,795,377
39. Fire Island Inlet to Montauk Point, NY	New Work Approp.	5,065,000	7,964,000	2,309,000	4,882,750	78,700,189 [13]
	Cost	3,906,736	9,483,613	1,803,061	3,556,225	76,213,877
	Maint. Approp.	—	—	—	—	113,970
	Cost	—	—	—	—	143,753
40. Raritan Bay and Sandy Hook Bay, NJ	New Work Approp.	368,000	12,500	-164,000	—	1,395,500 [14]
	Cost	178,880	120,015	22,095	131	1,212,299
41. Rockaway Inlet to Norton Point (Coney Island), NY	New Work Approp.	957,000	419,000	1,736,000	333,000	29,121,765
	Cost	733,296	2,275,497	411,461	416,096	26,928,146 [15]
42. Sandy Hook to Bamegat Inlet, NJ	New Work Approp.	17,287,648	8,749,000	13,806,590	6,143,000	181,494,811 [16]
	Cost	18,007,294	7,016,396	10,226,844	7,761,029	173,323,502
45. Hackensack Meadowlands, NJ	New Work Approp.	487,500	—	—	—	2,987,500 [17]
	Cost	300,013	658,471	686,523	316,926	2,240,761
46. Joseph G. Minish Waterfront Park, NJ	New Work Approp.	5,887,000	194,000	1,600,000	815,000	15,396,000
	Cost	2,518,295	245,418	3,345,811	3,069,964	10,394,720
47. New York City Watershed, NY	New Work Approp.	—	1,371,000	21,000	1,480,000	4,898,000
	Cost	762,265	735,055	1,681,565	1,500,452	4,898,000
48 Passaic Mainstem NJ	New Work Approp.	—	—	—	—	63,459,669
	Cost	71,817	5,112	27,741	47,796	63,260,872
49. Preservation of Natural Storage Areas, NJ	New Work Approp.	1,510,000	1,825,000	2,837,000	2,296,000	9,648,000
	Cost	507,541	2,867,330	3,142,091	2,076,120	9,257,288
50. Ramapo at Mahwah NJ	New Work Approp.	—	29,000	84,000	651,000	1,914,460
	Cost	4,203	17,747	76,146	587,831	1,810,314
51. Ramapo at Oakland NJ	New Work Approp.	-409,000	2,349,500	3,012,000	1,989,000	11,924,500 [18]
	Cost	288,073	3,284,767	2,919,740	888,162	9,384,012

TABLE 2-A (Continued) COST AND FINANCIAL STATEMENT

Projects	Funding	FY00	FY01	FY02	FY03	Total Coast to Sept 30, 2003
52. Green Brook Sub-basin	New Work Approp.	4,930,420	3,449,000	14,450,000	9,905,000	62,351,420 [19]
	Cost	2,227,640	3,394,693	11,751,767	6,730,593	52,508,402

[1] Of which $12,500 is for North Atlantic Division Accounts.
[2] Of which $12,127 is for North Atlantic Division Accounts.
[3] Excludes $90,190 for new work expended from contributed funds. Additional NY State Funds were $200,000 in 1990, $581,000 in 1991, $611,574 in 1996, $2,093,194 in 1997, $1,280,000 in 2000, $1,468,734 in 2001, $3,654,000 in 2002 and in 2003 $292,959.
[4] Includes $5,112,694 for new work for previous project.
[5] Includes $238,350 for new work expended from public works funds and $311,461 emergency relief funds. Excludes $81,373 expended from contributed funds.
[6] Excludes $454,273 expended between August 18, 1915 and June 30, 1935, for operation and care of lock and dam at Troy, NY, under permanent indefinite appropriation. Excludes $23,735 reimbursement for repairs to Troy Lock.
[7] Includes $346,797 for maintenance for previous project.
[8] Includes $107,991,000 from contributed funds.
[9] Includes $115,000 for new work for previous projects.
[10] Includes $2,491,206 expended to date for construction of land-based overfire air pit incinerator ($1,493,393 in maintenance funds and $997,813 in O & M funds.) and $116,500 applied to removing wrecks authorized by acts prior to adoption of existing projects.
[11] Includes$53,802,633 from contributed funds.
[12] Includes $9,893,583 from contributed funds.
[13] Includes $12,828,750 from contributed funds.
[14] Includes $438,000 from contributed funds.
[15] Includes $12,792,100 from contributed funds.
[16] Includes $54,776,000 from contributed funds
[17] Includes $487,500 from contributed funds.
[18] Includes $1,022,500 contributed funds.
[19] Includes $14,072,420 from contributed fund

TABLE 2-B AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	AQUATIC PLANT CONTROL (See Section 1 of Text)	
River and Harbor Act of 1959	Control and progressive eradication of obnoxious Aquatic Plant growths	H. Doc. 37 85th Cong. 1st sess.
Section 104 and Harbor Act of 1958	Provided that all research and planning cost to be borne fully by the United States.	
Section 302 River and Harbor Act of 1965	Modified project to include control of waterchestnut	
	ARTHUR KILL CHANNEL,HOWLAND HOOK, MARINE TERMINAL,NY&NJ (See Section 2 OF TEXT)	
River and Harbor 23 June 1874	Original Project for a "channel between Staten Island and New Jersey "; 150 feet wide, 16 feet deep	Report of the Chief of Engineers 1873,S. x.52 42nd Cong., 3rd Session
River and Harbor 14 August 1876	Indicated that improvements recommended in 1873 and actually commenced in 1874 were no longer necessary and that a Channel 11 feet deep and 500 feet wide would serve tows and sailing vessels most expeditiously	Report of the Chief of Engineers 1876,H..44 44th Cong., 1std Session
River and Harbor 13 June 1902	Recommended a channel between New York and New Jersey passing south of Shooters Island , 21 feet deep and 300 feet wide width would be 400 feet.	H.D. 393,56th Cong.,. 1st,session
River and Harbor 25 June 1910	Authorized a channel north of Shooters Island 1 mile long , 300 feet wide, 16 feet deep.	H.D. 337,59th ,. Cong.,2nd sess
River and Harbor 22 September 1922	The original project for " New York and New Jersey " provided for a channel 400 feet wide and 30 feet deep	H.K. 653, 66th Cong. 2nd Session
River and Harbor 30 August 1935	Provided for present project depth of 35 feet and channel 600 -800 feet wide.	H.K. 133, 74th Cong. 1std Session
None	Feasibility study for the rehabilitation of the dike north of Shooters Island initiated 1960.	District Engineers April 1964
River and Harbor 27 October 1965	Provided for widening and deepening entrance to Kill Van Kill at Robbin's Reef at a 35 foot depth.	H.D. 108,89th Cong.,. 1st session
None	Investigation into the effects of the removal of Shooters Island And shore modifications on tides, currents, and shoaling in the Kill Van Kull channels. Study noted no detrimental effects.	Waterways Experiment . Station U.S. Army Corps., Dec 1967
None	Investigation into widening and deepening NY and NJ Channels in response to House Committee on Public Works Resolutions 30 March 1995, and 27 June 1956 resulted in negative reports.	District Engineer, NY 9/21/73

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
28 May 1975	Investigation into the feasibility of deepening the triangular area Just east of Shooters Island to 35 feet MLW. Initiated in 1974. Built in 1976.	District Engineer, NY H.D. 494,89th Cong, 2nd session
None	Investigation into the impacts caused by the removal of Shooters Island; noted a lack of economic justification and significant potential environmental impacts. Chief of Engineers recommended 6 August 1979 that no Federal funds be provided.	District Engineer, Feb 1979
None	Investigation into widening and deepening Kill Van Kull and Newark Bay in response to House Committee on Public Works Revolution Dated 14 June 1972 . Currently under review by the Office of Management and Budget.	District Engineer, NY July 1980
House Committee On Public Works Arthur Kill Channel, Howland Hook Terminal Resolution 9 May 1979	Review the reports of the Chief of Engineers on NY and NJ Channel contained in H.D.133,74th Cong., 1st Sess., and and Transportation 1st Cong. To determine the feasibility of deepening and easing the bends of NY and NJ Channels from deep water in Upper Harbor westward to Howland Hook Marine Terminal, Howland Hook, Staten Island, NY, and creating a turning basin to serve that facility; all to accommodate Deeper draft and otherwise larger ongoing general cargo and container vessels	Final Feasibility Report H.D. 108,89th Cong., NY and NJ March 1986
Water Resources Development Act Of 1986 (PL99-662) Sec.202(b)	AK Channel deepening to 41 feet to Howland Hook Terminal, and to 40 feet to Exxon Bayway Gulfport facilities, as per the project for navigation , Report of BERH dated 31 March 1986.	
Water Resources Development Act Of 1996 (PL 1014-303) Sec.303(b)(11)	Modified WRDA 86 to authorize AK Channel deepening to a depth of not to exceed 45 feet , at cost $83,000,000.	Final Limited Reevaluation Report , Arthur Kill Channel, Howland Hook Marine Terminal,NY&NJ Dec 1997.
Water Resources Development Act Of 1999 (PL106-53) Sec.338	Modified WRDA 86 and WRDA 96 to authorize AK Channel deepening at a total cost of $315,700,000.	Addendum to Final Limited Reevaluation Report ,Arthur Kill Howland Hook Marine Terminal,NY&NJ May 2001.
	BURLINGTON HARBOR,VT (See Section 3 of Text)	
July 4,1836	Construction of first 1,000 feet of breakwater	H. Doc. 131 ,23rd Cong. 1st sess.

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
June 23,1866	Extension of 1,500 feet to breakwater	H. Ex.Doc 56,39th Cong 2nd sess.
March 3,1875	Extension of 2,000 feet to breakwater Chief of Engineers authorized extension southerly of 1,000 feet and northerly 500 feet.	Annual Report,1874, p274, Annual Report 1887,p240
	EAST RIVER,NY (Section 4 of Text)	
March 2,1915	Removal of Coenties Reef to 35 feet , conditional upon local Local interests increasing depth to 40 feet	H. Doc. 188 ,63rd Cong. 1st sess.
July 27,1916	Channel across Diamond Reef 35 feet deep and 1,000 feet wide.	
August 8,1917	Channel east of Blackwells Island to 20 feet; channel between South Brother and Berrian Islands, to 20 feet; channel between North and South Brother Islands to 26 feet. Channel 40 feet deep through East River and Hell Gate	H. Doc.140,65th Cong. 1st,sess
July 18,1989	Secure a depth of 40 feet deep in channel through East River and Hell Gate as soon as practicable.	Specified in act
Sep.22,1922	Depth limited to 35 feet in through channel between Wallabout Channel and Throgs Neck, Channel east of Blackwells Island,30 Feet to English pl. Eliminated channel between North and South Brother Islands except as authorized prior to existing project. Remove certain rocks and reefs and construct dike in Pot cove, Hell Gate.	Rivers &Harbor Com Doc.3,67th Cong.2nd ses .
E.Pub.Wks.Comm. Res., Dec.15 1970 S.Pub.Wks.Comm	Spur channel to Astoria waterfront 37 feet in rock, 35 feet in Material, for a length of 0.95 mile for varying widths, and Turning basin.(South Brother Channel).	S.Doc. 91-60,91stCong. 2nd sess, Dec.1970
	EAST ROCKAWAY INLET,NY (Section 5 of Text)	
July 3,1930	Channel 12 feet deep and 250 feet wide, and a jetty.	H. Doc. 19 ,71th Cong 1st sess
	FIRE ISLAND TO JONES INLET,NY (Section 6 of Text)	
August 26,1937	Construction of jetty .	Rivers & Harbor Com Doc.75th Cong., 1st sess
May 17,1950	Channel 10 feet deep.	H. Doc. 762 ,80th Cong 2nd sess
1958 River & Harbor Act	Three dredging operations with sand serving as nourishment. to the beaches westerly of the inlet.	H. Doc. 411 ,84th Cong 2nd sess

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
1962 River & Harbor Act	Extension of existing jetty, a littoral reservoir, a navigation. channel and dikes, sand deposit on westerly beaches.	H. Doc. 115 ,89th Cong 1st sess
March 1988	14 foot channel with sand placed along Gilgo Beach.	
	FLUSHING BAY AND CREEK, NY (Section 7 of Text)	
Oct 23,1962	15 foot bay, creek and branch channel; 15 foot maneuvering area; 6-foot anchorage basin; revetment of dike extension; & abandonment of portion of creek channel & repair of dike	H. Doc. 551 ,87th Cong 2nd sess
	GLEN COVE CREEK,NY (Section 8 of Text)	
March 1988	Channel 8 deep and 100 feet wide.	H. Doc. 207 ,68th Cong 1st sess
	GREAT KILLS HARBOR,NY (Section 9 of Text)	
January 21,1927	Entrance channel to Crooks Island .	H. Doc. 252 ,69th Cong 1st sess
June 20,1938	Extension of entrance channel and anchorage area..	H. Doc. 559 ,75th Cong 3rd sess
	GREAT SOUTH BAY, NY (Section 10 of Text)	
December 4,1900	Construction of a channel in Great South Bay, from Fire Island . Inlet to the Patchogue River, not less than 10 feet in depth and 200 feet in width, with an 8 feet in depth in the Patchogue River	Rivers and Harbors Act in June 13,1902, modified in 1970
	HUDSON RIVER,NY (Section 11 of Text)	
June 25,1910	Channel 12 feet deep from Hudson to Waterford, remove State lock and dam at Troy and construct a new lock and dam.	H. Doc. 719,61st Cong 2nd sess
March 3,1925	Channel 27 feet deep from Hudson to Albany, NY	H. Doc. 350,68th Cong 1st sess
July 3,1930	Channel 27 feet below Hudson	H. Doc. 210,70thCong 1st sess
July 1,1935	Operation and care of lock and dam at Troy were included in Project.	
August 30,1935	Relocation of 12 foot channel between Troy and Waterford.	S. Doc. 155,72th Cong. 2nd sess
June 20,1938	Deepen channel between Albany and Waterford to 14 feet With no change in depths for harbors in front of Albany & Troy	H. Doc. 572,75th Cong 3rd sess

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
September 3,1954	Deepen channel between New York City and Albany to 32 feet And construct a turning basin and two anchorages.	H Doc. 228,83rd Cong. 1st sess
P.L. 89-72	Mooring facilities Note: The 12 and 27 foot classification have been de-authorized.	
	HUDSON RIVER AT ATHENS,NY (See Section 12 of Text)	
September,1996	The District will coordinate the assessment report to address The need for additional formulation and economic analysis To determine economic viability.	Rivers & Harbors Act of 1910 modified by Sect 110 of the WRDA 1
September,1996	**JAMAICA BAY** (See Section 13 of Text) Construction of 1 jetty.Interior channel along west shore	H.Doc.1488,72nd Cong 2nd sess
March 2,1945	Bay, 18 and 12 feet deep; interior channel along south Shore, 15 feet deep; entrance channel 20 and 18 feet deep And 1 riprap jetty all in lieu of work heretofore authorized. Modified conditions of local cooperation.	H.Doc.700,76thCong 3rd sess
May 17,1950	Channel 15 feet deep in Mott Basin including its 2 branches	H.Doc.665,80thCong 3rd sess
	JONES INLET, NY (See Section 14 of Text)	
March 2,1945	Construction of jetty and channel 12 feet deep and 250 feet wide	H. Doc 409,77th Cong.
	KILL VAN KULL-NEWARK BAY,NY&NJ (See Section 15 of Text)	
FY 1985 Supplemental Approp. Act	Deepening existing 35 foot channels in increments to 40 feet and then 45 feet	P.L. 99-662 P.L. 91-611
	LAKE MONTAUK HARBOR, NY (See Section 16 of Text)	
March 2,1945	Channel 12 feet deep and 150 feet wide, 70 feet boat basin; repair and extension of two jetties; and addition of sport facilities on top of jetties.	H. Doc 369,76th Cong. 1st sess.
	LONG ISLAND INTRACOASTAL WATERWAY, NY (See Section 17 of Text)	
August 26,1937	Channel 6 feet deep and 100 feet wide.	H. Doc 181,75th Cong. 1st sess.
	MATTITUCK HARBOR, NY (See Section 18 of Text)	
	A channel 7 feet deep from Long Island Sound to the Village of Mattituck, 100 feet wide at the entrance and 80 feet wide tand a 460 by 570 feet anchorage area at the upper end	Rivers & Harbors Act of 1986 modified in 1935 and 1964.

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	MORICHES INLET, NY (See Section 19 of Text)	
	Channel 100 feet deep and 200 feet wide in inlet and 6 feet and 100 feet wide in the Bay and of two jetties	H. Doc 126,86th Cong. 1st sess.
	NARROWS OF LAKE CHAMPLAIN, NY&VT (See Section 20 of Text)	
August 8,1917	Channel 12 feet deep and 150 wide	Rivers & Harbors Comm
	NEW YORK HARBOR AND ADJACENT CHANNELS PORT JERSEY, NY (See Section 21 of Text)	
WRDA 1986	Deepening existing 35 foot channel and turning basin.	PL99-662
	NEW YORK AND NEW JERSEY CHANNEL NY&NJ (Section 22 of Text)	
	Anchorage off Perth Amboy to 35 feet	H.Doc.1386,62ndCong
September 6,1933		H.Doc.17,71thCong
August30,1965		2nd sess
May 28,1935	Channel 35 feet deep from lower bay to upper bay , except between vicinity of Smith Creek and vicinity of Piles Creek to 30 feet with anchorage 38 feet deep at Sandy Hook and Perth Amboy	H.Doc.133,74thCong 1st sess
May 17,1950	Channel 35 feet deep from vicinity of Smith Creek to the vicinity of Piles Creek	H.Doc.133,74thCong 1st sess
October 27,1965	Widen entrance to Kill Van Kull to 1,400 feet narrowing minimum width of 1,000 feet	H.Doc.108,98thCong 1st sess
	NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT,NY&NJ (See Section 23 of Text)	
March14, 1915	Allotment from appropriatins made for New York Harbor and its Immediate tributaries may be used for collection and removal of drift in these waterways.	
July3, 1930 December31, 1970	Carrying on this work as a separate and distinct project. Increase scope of project to include removal and disposal of derelict vessels, some deteriorated shore structures and debris along shores; and the repair of other structures; all subject to approval by Secretary of the Army and the President.	PL91-611,91st Cong., H.R.1987
March7, 1974	Removal and disposal of derelict vessels, some deteriorated shore	PL91-611,93rd Cong.,

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	structures and debris along shores and the repair of other shore structures.	
	NEW YORK HARBOR ENTRANCE CHANNEL AND ANCHORAGE AREAS (See Section 24 of Text)	
July5, 1884	Main-Ship-Bayside –Gedney to 30 feet deep for width of 1,000 feet (Dimensions fixed by Secretary of War , December 27,1886 by authority of Act of August 5, 1886).	Annual Reports 1887, p62 and 1888,p63
March3, 1899	Ambrose Channel (East Channel)	H.Doc.159,55th Cong., 2nd sess.
June25, 1910	Maintenance of entrance channel under I head.	
August8, 1917	Anchorage Channel, extension of Ambrose Channel into Upper Bay	H.Doc.518,63rd Cong., 2nd sess.
August8, 1917	Removal of Craven Shoal	H.Doc.557,64th Cong., 1st sess.
August8, 1917	Channel between Staten Island and Hoffman and Swinburne Islands	H.Doc.625,64th Cong., 1st sess.
August30, 1935	Dredging south end of Red Hook Flats, Liberty Island Anchorage, And channel along New Jersey pier-head line.	H.Doc.183,73rd Cong., 2nd sess.
August30, 1935	Deepen Bayside-Gedney Channel to 35 feet for a width of 800 feet.	H.Doc.133,74th Cong., 1st sess.
August26, 1937	Deepen Ambrose and Anchorage Channels to 45 feet for a width of 2,000 feet.	Senate Commerce Doc 75th Cong, 1st sess.
July3, 1958	Dredging South Channel, elimination of portion of Bayside-Gedney Channel.	S. Doc. 45 84th Cong. 1st sess.
October27, 1965	Deepen and expand Red Hook Flats Anchorage, deepen Gravesend Bay Anchorage	S. Doc. 17 89th Cong., 1st sess
March31, 1982	Further expansion of Red Hook Flats Anchorage and the Relocation of Anchorage channel.1982	OCE Letter 31 Mar
	NEW YORK AND NEW JERSEY HARBOR NY&NJ (Section 25 of Text)	
May 2000	Deepen the Ambrose Channel from its existing/ previously authorized depth to 53 feet below mean low water, deepen the	WRDA 2000
	NEW YORK AND NEW JERSEY HARBOR NY&NJ (Section 25 of Text)	
May 2000	Deepen the Ambrose Channel from its existing/ previously authorized depth to 53 feet below mean low water, deepen the	WRDA 2000

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	Anchorage, Bay Ridge, Port Jersey, Kill Van Kull ,Newark Bay and Arthur Kill(to Howland Hook) Channels from their previously authorized depths to 50 feet (52 feet in rock or otherwise hard material) below MLW. Authorized associated mitigation for aquatic and air quality impacts.	
	NEWARK BAY, HACKENSACK & PASSAIC RIVER, NJ (Section 26 of Text)	
March 2, 1907	16 foot channel of Passaic River	H.Doc.441,59th ,Cong 2nd sess
February 27, 1911	Widening 16 foot channel in Passaic River	H.Doc.441,59th Cong 2nd sess
July 25, 1912	20-foot channel in Passaic River	H.Doc.707,62nd Cong 2nd sess
January 21, 1927	10-foot channel in Passaic River	H.Doc.284,60th,Cong 2nd sess
July 3, 1930	30-foot channel in Passaic River	H.Doc.156,71st,Cong 2nd sess
March 22, 1945	35 and 37 feet in main channel of Newark Bay and branch Channel to an inshore channel Port Newark terminal and remove Portion of rock area at Bergen Point to same depths.	S.Doc.250,79th Cong 2nd sess
March2, 1945	Modification of local cooperation for 10 - foot channel	H.Doc.430,76th Cong 1st sess
September3, 1954	34-32 foot channel in Hackensack River including approach channel in Newark Bay from branch channel at Port Newark terminal and remove portion of rock area at Bergen Point to same depths.	H.Doc.252,82th Cong 1st sess
October23, 1962	35 - foot channels at Port Elizabeth	H.Doc.289,88th Cong 2nd sess
November7, 1966	Widening 35-foot channel in Newark Bay, provision of two Maneuvering areas, widening entrance into Port Elizabeth and Newark Bay branch channels, deepening and widening ewark Bay 32-foot channel and provision of a turning basin At junction of Hackensack and Passaic Rivers; and deepening 2 foot –channel in Hackensack River at 15 feet..	H.Doc 494,89t Cong 2 nd sess

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	PLATTSBURGH HARBOR, NY (See Section 27 of Text)	
July4, 1836	Construction of 1,000 feet of breakwater	H.Doc. 131,23th, Cong 2nd sess
July11,1870	Extension of 400 feet to breakwater, dredging between breakwater and wharves and beach revetment.	H.Doc. 494,89th Cong 2nd sess
September19, 1890	Extension of 300 feet to 1,250 feet of breakwater already Built.	Annual Report 1870,pg55 Annual Report 1889, Pg.2458
June25, 1910	Completion of improvement by dredging areas not Heretofore dredged to 9 feet.	H.Doc.759th,61st, Cong 2nd sess.
	RARTAN RIVER, NJ (See Section 28 of Text)	
March 2, 1919	Channel 15 feet deep and 20 feet wide to Washington Canal 10 feet deep and 150 feet wide to canal locks and 10 feet deep thru South Channel	H.Doc. 1341,62nd Cong 3rd sess
July 3,1930	Channel 25 feet deep and 300 feet wide up to New York and Long Branch Railroad bridge.	H.Doc. 454,70th Cong 2nd sess
July 3,1930	Channel 10 feet deep in earth and 11 feet in rock to New Brunswick Width reduced to 100 feet.	H.Doc. 127,70th Cong 1st sess
July 3,1930	Relocation of lower reach to South Channel	Rivers & Harbors Comm H.Doc.31,71th Cong 2nd
August 26, 1937	Channel 25 feet deep and 300 feet wide to junction of main and south channels, thence of same depth on South Channel Titanium Pigment Co.	Rivers & Harbors Comm H.Doc. 74,74th Cong 2sess
October 17, 1940	Channel 25 feet deep and 300 feet wide to junction of main south channels to government wharf, including a turning basin	Report on file in the Office Chief of Engineers (report not printed)
October 23, 1962	In South Channel, maintenance of 15 foot channel to dock of Middlesex County Sewerage Authority.	H.Doc. 455,86th Cong 2nd sess
	RARTAN RIVER TO ARTHUR KILL CUT-OFF CHANNEL, NJ (See Section 28 of Text)	
September 6, 1933 August 30, 1935	Channel 1 mile long, 20 feet deep, 800 feet wide, connecting Raritan River and Arthur Kill channels	H.Doc. 50,73 Cong., 1st sess

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	SAG HARBOR,NY (See Section 30 of Text)	
June13,1902	Breakwater	H.Doc.77th,56th Cong 1st sess (Annual Report 190,p1451)
	SHARK RIVER,NJ (See Section 31 of Text)	
March2,1945	Channel 18 feet deep 150 feet wide across entrance bar, 12 feet Deep 100 feet wide to Route 35 bridge,8 feet deep 100 feet wide To upper limit of Belmar boat basin; and 12-foot anchorage.	H.Doc.102, 76th Cong 1st sess
	SHINNECOCK INLET, NY (See Section 32 of Text)	
July14,1960	Channel 10 feet deep and 20 feet wide in inlet, and 6 feet deep and 100 feet wide in the Bay, and 2 jetties.	H.Doc.126,86th Cong 1st Sess FY 83 Supplemental Appropriatins Act.
	ATLANTIC COAST OF LONG ISLAND,JONES INLET TO EAST ROCKAWAY,LONG BEACH ISLAND NY (See Section 26 of Text)	
October1,1986	Storm damage protection , rehabilitation of existing groins Construction of new groins.	Section 101(a) 21 of WRDA 1996
	E**AST ROCKAWAY INLET TO ROCKAWAY INLET AND JAMAICA BAY, NY** (See Section 27 of Text)	
1974 & 1986 WRDA	Beach nourishment of 100 to 200 foot wide beach elevation. 10 feet MSL	
	FIRE ISLAND TO MONTAUK POINT, NY (See Section 28 of Text)	
1960 Rivers &Harbor	Raising dunes, widening beaches, interior drainage structures, groins beach replenishment , annual renourishment	H.Dov.425,86th , Cong.,2nd sess.
1974 WRDA	Project modified to provide that non-Federal interest shall contribute 30 percent of first costs.	P.L.93-251,93rd H.R.10203
1974 & 1992	**SANDY HOOK TO BARNEGAT INLET,NJ** (See Section 31of Text)	
July3, 1958 1988 WRDA	Restoration of beach to minimum width of 100 feet at height 10 feet above MLW, and construction of 23 new groins and extension of 14 existing groins.	H.Doc.332,85th Cong 2nd sess, modified by Appr.Act for Energy & Water Dev.1985
	HACKENSACK MEADOWLANDS,NJ (See Section 32 of Text)	
February,1996	Tide gate improvements to control flooding in the Berry's Creek damage basin, the mitigation enhancement and Acquisition of wetlands, the development and Implementation of a system to provide for water quality Monitoring and wetland monitoring, storm water. Magement and watershed clean-u	WRDA of 1992,sect Amended by WRDA of 1996 sect. 550

TABLE 2-B (Continued) AUTHORIZATION LEGISLATION

Acts	Work Authorized	Documents
	JOSEPH G. MINISH PASSAIC RIVER WATERFRONT PARK AND HISTORIC AREAS (See Section 35of Text)	
November28, 1990	The first phase restores riverbanks and wetlands,. The The second phase adds a 9,200 foot waterfront walkway And third phase adds park facilities, plazas and landscaping	WRDA 1990;PL101- 640 WRDA 1992;PL101-580 WRDA 1996;PL104-303
	NEW YORK CITY WATERSHED,NY (See Section 36 of Text)	
April 1997	Provide design and construction assistance for water -related environmental infrastructure and resources management	WRDA1996, sect 552CR52 HR.36
	PASSAIC RIVER BASIN, NJ (See Section 37of Text)	
WRDA1976, 1990&1992	Advanced engineering and design study; involving reformulation of plans for flood control and water resource management	H.Report 94-1702
	PRESERVATION OF NATURAL FLOOD STORAGE AREAS,PASSAIC RIVER,NJ (See Section 38 of Text)	
October22, 1976	The preservation element includes acquisitions 5,350 areas of natural storage , 5,200 acres of which are wetlands and could conceivably be developed.	WRDA1976;PL94-587 WRDA1990&1996
	RAMAPO AT MAWAH,NJ AND SUFFERN,NY (See Section 39 of Text)	
WRDA1986	Plan for flood damage reduction includes channel modification to approximately 13,000 feet of the Ramapo River, Mahwah River and Masonicus Brook.	H.Doc.99-1013,Cong 2nd sess.
	RAMAPO AT OAKLAND,NJ (See Section 40 of Text)	
October22, 1976	Phase I Advanced Engineering and Design Study was authorized. Congressional guidance for the conduct of the study. The study was authorized for construction.	WRDA1976,PL94-587 WRDA1986,PL99-662 WRD 1996,PL104-303
	RARITAN RIVER BASIN,GREENBROOK SUB-BASIN,NJ (See Section 41 of Text)	
March16,1981	Recommended 150 flood protection in lower portion.	
February 1984	Recommended protection to 500 year level. Authorizes construction of Greenbrook Flood Control .Flood control combines levees ,flood walls, channel modification ,flood proofing and natural flood storage to provide protection	WRDA 1986 ,sect 401(a)

TABLE 2-C HUDSON RIVER, NY

FEATURES OF LOCK AND DAM INCLUDED IN EXISTING PROJECT (Section 6 of Text)	Location
Below Waterford	2.2 miles
Above Battery, New York City	152.6 miles
Locks:	
Clear Width	44.4 feet
Greatest length available for full width	492.5 feet
Lift at lowest stages	17.3 feet
Depth on miter sills:	
Upper (at normal pool level)	16.3 feet
Lower (at lowest low water)	13.0 feet

Character of foundation: Rock
King of dam: Fixed Crest
Type of construction: Concrete
Complet: 1917
Cost: $1,463,014

TABLE 2-E SUPERVISOR OF NEW YORK HARBOR

Statement of Activities FY 2003

1. Number of Patrols:		
a. Shore		91
b. Vessel		180
c. Air (helicopter)		0
	Total	271
2. Number of Inspections:		
a. Shore Facilities		218
b. Vessels		108
	Total	326
3. Disposition of Cases:		
a. Voluntary Restoration		34
b. After-the-Fact Permit Applications Accepted		8
c. Permit Not Required or Already Under Permit		38
d. Submitted for Litigation to OCE or U.S. Attorney		0
e. Other Misc.		62
f. Cases Pending as of 10/1/03		154
	Total	272

TABLE 2-F RECONNAISSANCE AND CONDITION SURVEYS FY 03

NAME OF PROJECT	DATE SURVEY CONDUCTED
NEW JERSEY	
Cheesequake Creek	Sep03
Hackensack River	Jul03
Keyport Harbor/Matawan Creek	Aug03
New York New Jersey Channel, Secondary Channel	Dec02
New York New Jersey Channel, Seguine Pt. to OBX	Mar03
New York New Jersey Channel, Raritan Reaches	Jan 03
New York New Jersey Channel, Arthur Kill	Jun/Jul03
New Jersey Pierhead Channel	Oct 02
Newark Bay Port Elizabeth	Feb 02
Newark Bay Main Channel	Feb-Jun03
Newark Bay Port Newark	Dec02
Newark Bay South Elizabeth Channel	Oct 03
Passaic River	Jul 03
Perth Amboy Anchorage	Dec02
Raritan River	Jun 03
Raritan River to Arthur Kill Cutoff	Mar/Apr03
Sandy Hook Channel	Aug03
Sandy Hook Bay at Leonard	Nov03
Shark River	Jul03
Shoal Harbor & Compton Creek	Sep03
Shrewsbury River	Jul03
NEW YORK	
Bayridge & Red Hook Channel, NY	Oct/Nov02
Eastchester Creek	Jun/uJul03
East River Spur Channel	Apr03
East Rockaway Inlet	Apr03
Fire Island Inlet	Mar03
Gravesend Bay	Oct 02
Great Kills Harbor Inlet	Mar03
Hudson River	Nov 02
Jones Inlet	May 03
Lake Montauk Harbor	May 03
Main Ship Channel	Oct 02
Mamaroneck Harbor	Aug03
Moriches Inlet	May03
Rockaway Inlet	Sep 03
Shinnecock Inlet	Jul 03
Westchester Creek	Jun/uJul03

Total cost of Reconnaissance and Condition Surveys in Fiscal Year 2003 was $1,541,853

TABLE 2-G OTHER AUTHORIZED NAVIGATION PROJECTS

	For Last Full Report See Annual Projects Report for	Cost to September 30, 2003 Construction	Operation & Maintenance
Bay Ridge-Red Hook Channels, NY	1992	5,523,297	41,200,035
Bronx River, NY	1991	1,149,946[3]	3,802,517
Browns Creek, NY	1995	33,976[12]	1,072,040
Burlington Harbor, VT	1966	706,414[9]	303,555
Channel between North & South Hero Islands, VT	1909	31,000	1,288
Cheesequake Creek, NJ	1953	40,000	210,675
Coney Island Channel, NY	1973	111,371	423,148
Coney Island Creek, NY	1952	69,489	6,203
East River, NY	1997	32,723,662[13]	8,225,184
East Rockaway Inlet, NY	1997	83,969	16,624,362
Echo Bay Harbor, NY	1953	64,584	21,571
Fire Island Inlet, NY	1973	594,355	2,908,786
Flushing Bay & Creek, NY	1997	2,102,905	8,878,900
Gordon's Landing, VT	1982	34,750	115
Gowanus Creek Channel, NY	1972	346,831	394,004
Great Chazy River, NY	1980	18,000	292,919
Great Kills Harbor, NY	1962	137,301[1]	88,029
Great Lakes to Hudson River W/W, NY	1976	33,562,640[20]	457
Greenport Harbor, NY	1953	74,681	21,720
Harlem River, NY	1969	3,616,119	493,491
Hempstead Harbor, NY	1993	3,687,949	76,497
Hudson River Channel, NY	1997	6,771,870	37,136,037
Huntington Harbor, NY	1953	91,081[17]	57,527
Keyport Harbor, NJ	1990	40,475	1,417,437
Lake Montauk, NY	1991	791,680	1,288,163
Larchmont Harbor, NY	1970	76,065	267,768
Little Neck Bay, NY	1969	1,741,210[19]	537
Mamaroreck Harbor, NY	1990	513,764	1,351,086
Matawan Creek, NJ	1984	21,000	315,613
Mattituck Harbor, NY	1990	177,925	1,417,832
Milton Harbor, NY	1984	151,373	1,057,26
Newton Creek, NY	1986	1,168,354	1,760,745
New Rochelle Harbor, NY	1971	73,214[8]	212,411

TABLE 2-G (Continued) OTHER AUTHORIZED NAVIGATION PROJECTS

	For Last Full Report See Annual	Cost to September 30, 2003	Operation &

[3] Excludes $496,250 for new work for previous projects.

[12] Includes $69,036 for new work an d$26,921 for maintenance for previous projects. Excludes $10,000 for new work expended from contributed funds.

[9] Includes cost of maintenance prior to July 1, 1886. Excludes $1,415,133 for rehabilitation.

[13] Includes $6,187,690 for new work and $37,664 for maintenance for previous projects.

[1] Excludes $104,800 for new work expended from contributed funds.

[20] Included $4,456,400 for new work expended from emergency relief funds.

[17] Excludes $19,546 for new work expended from contributed funds and $31,454 to be contributed.

[19] Excludes $1,741,210 for new work expended from contributed funds

[8] Includes $43,175 for new work for previous projects.

	Projects Report for	Construction	Maintenance
New York State Barge Canal, NY	1988	—	—
Northport Harbor, NY	1956	78,644	61,487
Peconic River, NY	1953	25,000	116,500
Peekskill Harbor, NY	1951	19,400	66,037
Plattsburgh Harbor, NY	1986	198,415	256,415
Port Chester Harbor, NY	1990	433,470[6]	1,742,097
Port Henry Harbor, NY	1931	69,406[25]	1,299
Port Jefferson Harbor, NY	1977	221,128[31]	359,294
Raritan River, NJ	1991	1,551,470	16,114,463
Raritan River to Arthur Kill Cut-Off Channel, NJ	1991	810,500	3,965,631
Roundout Harbor, NY	1989	142,437	3,185,437
Rouses Point, Lake Champlain, NY	1895	98,468	249
Sag Harbor, NY	1964	212,805[26]	11,710
Sandy Hook Bay, NJ	1985	508,936	4,002,330
Sandy Hook Bay @ Leonardo, NJ	1991	56,479	679,916
St. Albans Harbor, Lake Champlain, VT	1917	3,125	385
Saugerties Harbor, NY	1988	81,905	429,180
Shark River, NJ	1987	150,000	1,254,813
Sheepshead Bay, NY	1948	33,828	64,078
Shoal Harbor & Compton Creek, NJ	1990	124,572[7]	1,822,938
Staten Island Rapid Transit Railway Bridge, Arthur Kill, NY	1973	7,730,476	—
Sumpawanus (Babylon Creek) Inlet, NY	1895	7,000	—
Wallabout Channel, NY	1953	18,174	36,312
Wappinger Creek, NY	1950	13,000	44,691
Washington Canal and South River, NJ	1953	206,116[30]	212,827
Woodbridge Creek, NJ	1953	48,823	178,398

\

6 Includes $16,369 for maintenance for previous projects.

25 Excludes $1,000 for new work expended from contributed funds.

31 Includes $84,934 for maintenance for previous projects.

26 Excludes $66,758 for rehabilitation.

7 Includes $17,000 for new work for previous projects.

30 Includes $84,934 for maintenance for previous projects.

TABLE 2-H OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2003 Construction	Operation & Maintenance
Atlantic Coast of NJ, Sandy Hook to Barnegat Inlet[1]	1959		
Raritan Bay and Sandy Hook Bay, NJ	1981	$11,061,256	262
Fire Island Inlet to Jones Inlet, NY[2]	1981	18,044,667	217,900

[1] Reactivated as a modified project in 1985 (Sec. 21)
[2] Listed since 1982 as a navigation and beach nourishment project (Sec. 4)

TABLE 2-I OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Projects	For Last Full Report See Annual Report for	Cost to Sept 30, 2003 Construction	Operation & Maintenance
Adams, Hossic River Basin, Mass. 1	1964	6,282,307 [2]	—
Ardsley, NY	1990	5,477,281	—
Atlantic Coast of NJ, Sandy Hook to Barnegat Inlet[1]	1959		
Byram River at Pemberwick, Conn. 1, 3	1959	363,515	—
East Barre Dam, Winooski River, Vt. 1	1963	2,898,334	—
Elizabeth, NJ	1985	54,374,070	—
Fire Island Inlet to Jones Inlet, NY[2]	1981	18,044,667	217,900
Herkimer, NY	1973	1,249,530 [9]	—
Hoosic Falls, Hoosic River Basin, NY 1	1956	1,064,626	—
Lamoille River, Vt: Hardwich Dams 5, 6	1939	—	—
Liberty State Park Levee and Seawall, NJ	1990	17,888,670	—
Missisquoi River at Richford, Vt 13	1965	238,169	—
North Adams, Hoosic River Basin, Mass.	1968	15,572,988 [7]	—
Rahway, NJ	1971	973,142 [8]	—
Rahway, South Branch, NJ	1979	15,863,723	—
Raritan Bay and Sandy Hook Bay, NJ	1981	$11,061,256	262
Rosendale, NY	1975	3,684,966	—
Sandburg Creek, Spring Glen, NY	1976	109,702	—
Sawmill R. Elmsford & Greenburgh, NY	1987	62,917	—
South Amsterdam, Mohawk River, NY	1967	1,564,976	—
South Ellenville, NY	1984	289,702	—
South Orange, NJ	1981	6,857,484	—
Staten Island, NY	1983	664,998	—
Wappinger Creek at Pleasant Valley, NY 1-3	1959	142,075	—
Waterbury Reservoir Winooski River Basin, Vt.	1976	1,438,845	8,200
Winooski River, Vt.	1940	5,897,427	—
Wrightsville Dam, Winooski River Basin, Vt.	1970	1,549,929	—
Yonkers, NY	1984	113,754,475 [10]	—

[1] Completed.
[2] Excludes costs of $913,360 under other contributed funds.
[3] Authorized by Chief of Engineers pursuant to Sec. 205, Public Law 858, 80th Cong., as amended.
[4] Inactive.
[5] Includes $213,507 emergency relief funds.
[7] Excludes cost of $21,000 under other contributed funds.
[8] Excludes cost of $51,500 under other contributed funds.
[9] Uncompleted portion has been deauthorized.
[10] Includes $622,8176 contributed funds.

TABLE 2-J SURVEYS

Study Class	FY 03 Cost
Navigation Studies	$106,652
Flood Control Studies	$947,756
Beach Erosion Studies	$1,428,878
Special Studies 1	$2,911,608
TOTAL	$5,394,894

[1] Includes watershed/ecosystems, special investigations, FERC licensing activities, Intra Army water resources, Nat'l Estuary studies, Marine Fisheries Service, Planning Ass't to States, Coord. studies of other agencies.

TABLE 2-K PRECONSTRUCTION ENGINEERING AND DESIGN

Authorized Projects	FY 03 Cost
Navigation	
Arthur Kill Channel - Howland Hook Terminal, NY & NJ	$ 66,490
New York and New Jersey Harbor, NY & NJ	260,660
TOTAL	327,150
Beach Erosion	
Raritan & Sandy Hook Bay, Port Monmouth, NJ	$590,172
Flood Control	
Lower Saddle River, NJ	3,422
Passaic River, Harrison, NJ	490,333
Passaic River Mainstem, NJ	47,796
Passaic River Mainstem	70,824
Preservation of Natural Flood Storage Areas, NJ	
Sawmill River @ Elmsford-Greenburgh, NY	69,257
TOTAL	$681,632

TABLE 2-L COSTS FOR FLOOD PLAIN MANAGEMENT SERVICES

Study Class	FY 03 Cost
Flood Plain Technical Servic	$37,023
Flood Plain Management Unit	36,608
Camp Robinson, NY	17,923
Detention/Retention Study, VT	500
Kaaterskill Creek, NY	6,240
Quick Response	23,992
Bryant Park, VT	223
Searcy Park, NY	9,469
Aowa Creek NE-FPI, NY	42,939
SS-Project College of Mt. St Vincent, NY	9,491
Pine Grove Lake, NY	8,400
Chazy Lake, NY	2,825
SS-Black Creek, VT	34,354
TOTAL	$229,987

TABLE 2-M DEAUTHORIZED PROJECTS

Projects	For Last Full Report See Annual Report for	Date And Authority	Federal Funds Expended	Funds Expended: Construction	Funds Expended: Operation And Maintenance
Bennington, VT (1936 & 41 Acts)	1974			670,000	
Bronx River, NY	1981	Aug. 1982	1,149,946	1,159,946 [12]	1,947,853
Brown's Creek, NY	1980	Aug. 1977	33,976	33,976 [8]	505,369
Cheesequake Creek, NJ 4	1953	Aug. 1982	40,000	40,000	30,675
Coney Island Creek, NY 4-6	1952	Aug. 1982	69,489	69,489	1,622
East Chester Creek, NY (1950 Act)	1992	July 1992	—	—	—
East Rockaway (Devs) Inlet, NY 4	1963	Aug. 1977	3,503,96913	100,000	—
East Rockaway Inlet to Rockaway Inlet and Jamaica Bay, NY (Part 11)	1976	1988	—	1,185,365	—
Elizabeth, NJ	1948	Aug. 1977	60,481	60,481	59,391
Glen Cove Harbor, NY	1966	Aug. 1977	165,882	165,8824 [11]	2,455
Hempstead Harbor, NY (68 Act) 14	1989	Jan. 1990	—	39,468	76,497
Hudson RIver, NYC to Albany (12 ft, 27 ft) 18	1982	Aug. 1987	—	—	—
Huntington Harbor, NY	1953	Aug. 1977	49,035	68,5814 [5]	51,566
Irvington Harbor, NY	1947	Aug. 1977		—	—
Lamoille River, VT	1939	Aug. 1977	49,837	49,837	—
Lemon Creek, NY	1937	1988	—	6,621	1,621
Manhasset Bay, NY	1948	1988	—	—	4,636
Matawan Creek, NJ (1881 Act)	1984	1988		21,000	257,237
N. Shore of Long Island, Suffolk County, NY	1979	Jan. 1990	—	—	—
Newark Bay, Hackensack and Passaic River, NJ 16	1982	Aug. 1982	—	—	—
NY & NJ Channels 4, 18	1982	Aug. 1982	—	—	—
Orowoc Creek, NY	1949	1988	—	—	4,951
Otter Creek, VT	1937	Jan. 1990	—	—	—
Perth Amboy, NJ	1966	Jan. 1990	—	—	—
Port Chester Harbor, NY 2,3	1967	Aug. 1977	433,470	433,470 [4]	441,656
Port Jefferson Hbr. NY (1890, 1930 & 68 Acts)	1977	Jan. 1990	—	—	—
Rahway River, NJ 6, 7	1948	Aug. 1982	—	37,000 [4]	307
Raritan River, NJ 4, 6	1981	Aug. 1982	1,551,470	1,617,470 [15]	10,113,903
Rome Mohawk River, NY 6, 7	1959	Aug. 1982	7,000	7,000	—
Rutland, Otter Creed, VT	1963	1988	—	211,015	—
Sag Harbor, NY (Channel) 1	1964	Oct. 1992	—	—	—
Shooters Island, NJ & NY 9	—	July 1992	—	—	—
Shrewsbury River, NJ (1950 & 1965 Act)	1992	Jan. 1990	—	—	—
Swanton Harbor, VT 6	1888	Aug. 1977	—	70,500 [4]	235

TABLE 2-M (Continued) DE-AUTHORIZED PROJECTS

Projects	For Last Full Report See Annual Report for	Date And Authority	Federal Funds Expended	Funds Expended: Construction	Funds Expended: Operation And Maintenance
Ticonderoga River, NY 1-6	1895	Nov. 1983	167,760	16,500	1,260
Waterbury, VT (1941 Act) 7, 8	1951	Nov. 1981	9,253	9,253	—
Waterford, NY 6, 7	1939	Aug. 1982	—	—	—
Waycake Creek, NJ	1949	1988	—	2,781	—
Westchester Creek, NY 4	1981	Aug. 1982	175,933	175,933	2,921,311

[1] No Commerce reported
[2] Completed
[3] A portion of this project is classified “inactive”
[4] Uncomplete portion deauthorized
[5] Excludes $19,546 for new work expended contributed funds
[6] Inactive
[7] Entire project deauthorized
[8] Excludes $71,423 for rehabilitation
[9] Removal for navigation
[10] Deepening 8 foot project to 10 feet
[11] Includes $93,882 for Rehabilitation
[12] Includes $10,000 expended from contributed funds
[13] Includes $100,000 expended from contributed funds
[14] Deepening project to 13 feet
[15] Includes $66,000 expended from contributed funds
[16] 1912 authorization
[17] 1935 authorization
[18] 1910 construction dikes

TABLE 2-N SECTION 14

Project	FY 03 Cost
PLANNING AND DESIGN ANALYSIS	
Wallkill River, Rosendale, NY	$710,268
Elizabeth River, Valley View Rosendale, NJ	45,446
Coordination Account	13,731
Hudson River Poughkeepsie, NY	75,977
Richford Water Supply, VT	77,622
South Branch, Rahway River, NJ	27,844
Mt. Pleasant Ave., Hanover, NJ	26,897
Town of Wells, NY	40,883
Delaval, Bulkhead, Hudson River, NY	559

TABLE 2-O SECTION 103

Project	FY 03Cost
CONSTRUCTION FUNDING	
Rikers Correctional Facility , NY	$ 6,659
Hudson River, Dutchess City, NY	$19,553

TABLE 2-P SECTION 107

Project	FY 03Cost
COORDINATION ACCOUNT	$17,084

TABLE 2-Q SECTION 111

Project	FY 03Cost
FEASIBILITY STUDY	
Coordination Account	$13,757
Mattituck Harbor, NY	2,361

TABLE 2-R SECTION 205

Project	FY 03Cost
FEASIBILITY STUDY	
Poplar Brook, Monmouth City NJ	$6,749
Fulmer Creek, Village of Mohawk, Herkimer City, NY	209,828
Moyer Creek, Village of Frankfort, Herkimer City, NY	140,792
Steele Creek, Village of Ilion, Herkimer City, NY	126,474
Mad River Basin, VT	118,241
Jackson Brook, Morris City, NJ	63,176
PLANS AND SPECIFICATIONS	
Sauquoit Creek, Whitesboro, NY	$4,340
Coordination Account	14,300
CONSTRUCTION FUNDING	
Elizabeth River, Hillside, NJ	$34,651
Mc Keel Brook Morris County, NJ	1,688,387
PRELIMINARY RESTORATION PLANS/INITIAL APPRAISALS NG	
Wynantskill Creek, North Greenburgh , NY	43,902
Branch Brook, Mt Kisco, NY	6,564
Plattekill Creek, Saugerties, NY	45,230
Brentwood Brook, Harrison, NY	15,849
Larchmont Reservoir, Larchmont, NY	58,204
Northvale, Spark Hill , NJ	61,873
Acid Brook, Pompton Lakes, NJ	55,438

TABLE 2-S SECTION 206

Project	FY 03Cost
FEASIBILITY STUDY	
Gerritsen Creek NY	$380,026
Lower Hempstead Harbor, Town of North Hempstead, NY	72,009
Manhasset Bay, Town of North Hempstead, NY	63,909
Oriskany Flats, NY	134,904
PRELIMINARY RESTORATION PLANS/INITIAL APPRAISALS	
Crossway Field, Village of Scarsdale, NY	$366
Coordination Account	15,404
Edith Read Natural Park and Wildlife Sanctuary , NY	757
Essex County, Weequahic Park , NJ	694
Fair Haven, Monmouth County, NJ	6,896
Former Flushing Airport, College Park , NY	829
Hackensack Meadowlands NJ	23,144
Harbor Island, Mamaroneck NY	389
Mad River Basin, VY	11,022
Mamaroneck Reservoir, Mamaroneck, NY	39
Mill Pond, Bay Shore, NY	1,567

Mud Creek, East Patchogue, NY	18,652
Nepperhan River Outlet, Yonkers, NY	323
New Haven, River Basin, VT	9,000
New Rochelle, (Echo Bay), NY	1,356
Port Jefferson Harbor, NY	144
Potash Brook , VT	11,014
Rye , NY Nursery Wetland	744
Sheldrake/Goodlife Pond, New Rochelle, NY	14,488
Spring Creek , NY	307,128
Soundview Park, City of Bronx, NY	25,499
Sunset Park, Bush Piers, Brooklyn, NY	1,687
Tresure Lake, Cliffwood Beach, NJ	6,357
Weir Creek, NY	499
West Shore of Penataquit Creek, Bay Shore , NY	517
Wild Branch River, VT	200

TABLE 2-T SECTION 1135

Project	FY 03Cost
FEASIBILITY STUDY	
Coordination Account	16,790
Hoosic River,Ma	88,562
Lincoln Park West, Jersey City, NJ	167,957
Northport Harbor,, Town of Huntington, NY	75,814
Rahway River,Rahway, NJ	82,083
Jamaica Bay Marsh Islands, NY	151,515

PHILADELPHIA, PA DISTRICT

This district comprises a portion of southeastern New York, eastern Pennsylvania, western and southern New Jersey, northern and southern Delaware, and a small part of northeaster Maryland embraced in the drainage basins tributary to the Atlantic Ocean from Manasquan River, NJ inclusive, to south boundary of Delaware. It also includes Chesapeake and Delaware Canal and approach channel thereto in Chesapeake Bay and Elk River, MD.

IMPROVEMENTS

Navigation:

1. BARNEGAT INLET, NJ

Location: On the east coast of New Jersey about 50 miles south of Sandy Hook, between Island Beach on the north and Long Beach on the south (See U.S. Coast and Geodetic Chart Nos. 825 and 1216). This inlet is the main entrance to Barnegat Bay, largest of the bays on New Jersey coast, which are separated from the ocean by narrow barrier beaches.

Previous Project: None

Existing project: The existing project, adopted as HD 73-19 in 1935 and modified as HD 74-85 in 1937 and HD 79-358 in 1946, provides for a channel eight feet deep through the inlet and ten feet deep through the outer bar, protected by two converging stone jetties and a channel of suitable hydraulic characteristics extending in a northwesterly direction from the gorge in the inlet to Oyster Creek channel and through the latter channel to deep water in the bay. The project was modified in 1946 to provide for the maintenance of a channel eight feet deep and 200 feet wide to connect Barnegat Light Harbor with the main inlet channel. The project length is about 4.5 miles. (For details see page 203, Annual Report 1964.)

The Supplemental Appropriation Act of 1985 contained language stating that the existing project has not worked as projected and, in fact has created a hazard to navigation. As a result, the following administratively approved modifications were constructed as design deficiency correction measures: a new south jetty 4,270 feet in length along an alignment generally parallel to the existing north jetty, extending from the old groin located near the Barnegat Lighthouse to the tip of the existing south jetty; a navigation channel 300 feet wide to a depth of 10 feet below mean low water from the outer bar in the Atlantic Ocean to the north end of the existing sand dike in Barnegat Bay; remove the shoal located between the north jetty and the proposed navigation channel; jetty sport fishing facilities on the new jetty. All dredged material from initial construction was placed on the shores of Barnegat Light between the existing and new south jetties, and is being stabilized by vegetation and sand fence. Dredged material from maintenance operations are placed on the down draft beaches, the area between the existing and new south jetties, or in other locations as determined by a shoreline monitoring program. Estimated cost for new work (October 1990) Federal share is $31,200,000 and non-Federal is $14,230,000. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: Fully complied with. A local cooperation agreement for the approved modification was executed on 19 May 1986 and a modification to the local cooperation agreement was executed on 20 March 1987.

Terminal facilities: There are four docks or terminals in inner harbor at Barnegat Light that furnish adequate facilities for present commerce of locality.

Operation during fiscal year: Maintenance: Condition surveys were accomplished. Began construction of 1,850 linear feet of revetment along the northern side of the inlet. Dredging by the U.S. Government Dredge Currituck removed a total of 269,819 cubic yards of material at a total of $1,174,000.

2. COLD SPRING INLET, NJ

Location: In Cape May County, southern New Jersey, about 3 miles east of Cape May City and about 16 miles northeast of Delaware breakwater. Inlet connects Cape May Harbor and New Jersey Intracoastal Waterway with the Atlantic Ocean and is about 1 mile long. (See Coast and Geodetic Survey Charts 234, 827 and 1219).

Existing project: An entrance channel 25 feet deep and 400 feet wide, protected by two parallel jetties, and extending from the 25-foot depth curve in the Atlantic Ocean to a line 500 feet harborward of a line joining the inner ends of the jetties, thence 20 feet deep and 300 feet wide to deep water in Cape May Harbor. The total length of the section included in the project is about 2.25 miles. Extreme tidal range, due to ocean storms, is about 11 feet. Project was completed in 1942. (For details see page 238, Annual Report for 1962. See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: Complied with Act of 1907, except work of deepening and enlarging inner harbor that is 80 percent complete.

Terminal facilities: See page 238 Annual Report for 1962.

Operations during fiscal year: Maintenance: Dredging by the U.S. Government Side Casting Dredge

Fry removed a total of 72,900 cubic yards of material from the inlet at a total cost of $250,300. Dredging by Barnegat Bay Dredging Company removed a total of 89,140 cubic yards of material from the Cape May Harbor at a total cost of $175,650.

3. DELAWARE RIVER BETWEEN PHILADELPHIA, PA AND TRENTON, NJ

Location: Rises in southeastern New York, flows generally southerly 367 miles, forming boundary line between New York and New Jersey on the east and Pennsylvania and Delaware on the west, and empties into Delaware Bay. (See U.S. COAST and Geodetic Survey Charts 1218, 280, 294, 295, and 296.)

Previous project: For details see page 1778 of annual report for 1915, page 311 of Annual Report for 1924, page 220 of Annual Report for 1934, and page 296, Annual Report for 1938.

Existing project: A channel from Allegheny Avenue, Philadelphia, 23.5 miles to upstream end of Newbold Island 40 feet deep and 400 feet wide, with suitable widening of bends, including relocation of channel at Delair Railroad bridge, and reconstruction of bridge, thence 5.5 miles to upper end of Trenton Marine Terminal, 35 feet deep and 300 feet wide, with a turning basin 800 feet wide and 1,700 feet long at the terminal; and maintenance of a channel 12 feet deep and 300 feet wide from upper end of 34-foot channel to Penn Central railroad Bridge at Trenton, dredged under a previous project. Project also provides for an auxiliary channel 20 feet deep and 200 feet wide east of Burlington Island, extending easterly from main channel to upper end of U.S. Pipe and Foundry Co.'s property at East Burlington, with a turning basin 450 feet wide at upper end; for initial excavation, only, of a cross channel 8 feet deep and 200 feet wide through artificial island opposite Delanco, NJ, and for construction of such bank protection works as may be necessary. Section included in project is about 30.5 miles long, excluding auxiliary channel east of Burlington Island, which is 1.4 miles long, and cross channel opposite Delanco. Lower end is about 55 miles above river mouth at Liston Point and about 105 miles above Harbor of Refuge at mouth of Delaware Bay. Freshets, which occur usually during February and March, attain a height of 9 to 20 feet above mean low water in the vicinity of Trenton. Navigation is occasionally suspended during a portion of winter months due to ice. Existing project is 90 percent complete. A 40-foot channel under the 1954 modification from Allegheny Avenue to upper end of Newbold Island was completed April 1964. Work remaining is dredging from upper end of Newbold Island to Trenton Marine Terminal and widening turning basin at terminal that is in deferred category. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: Modification authorized by 1954 River and Harbor Act provides local interests must provide suitable terminal facilities, furnish lands and rights-of-way for construction and future maintenance, and hold the United States free from damages. Local interest complied with requirements, except city of Trenton has not provided suitable terminal facilities.

Terminal facilities: There are 21 piers, wharves, and docks from Allegheny Avenue, Philadelphia, PA to Trenton, NJ facilities are considered adequate for existing commerce. (For details see Port Series No. 8 (revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Work included channel examination surveys and topographic surveys and preliminary design of several disposal areas provided by the State of New Jersey. Work also included dredging by the U.S. Government Dredge McFarland removing a total of 128,807 cubic yards of material at a cost of $1,432,067.

4. DELAWARE RIVER MAINSTEM CHANNEL & DEEPENING, NJ, PA, & DE

Location: The project area is located within the Delaware Estuary and borders Pennsylvania, New Jersey and Delaware. It extends over 100 miles of the Delaware River from Philadelphia Harbor, Pa. and Beckett Street Terminal in Camden, NJ to the mouth of the Delaware Bay.

Existing project: Delaware River Federal Navigation Channel (Philadelphia to the Sea Project) completed in 1942. The project calls for modifying the existing Delaware River Federal Navigation (Philadelphia to the Sea Project) channel from 40 to 45 feet below Mean Low Water (MLW) with an allowable dredging over depth following the existing channel alignment from Delaware Bay to Philadelphia Harbor and the Beckett Street Terminal, Camden New Jersey, a distance of about 102.5 miles. The channel width (same as the existing 40-foot project) would range from 400 feet in Philadelphia

Harbor to 800 feet from Philadelphia Naval Business Center to Bombay Hook and then 1,000 feet in Delaware Bay. The plan includes appropriate bend widening as well as provision of a two-space anchorage for safety purposes to a depth of 45 feet at Marcus Hook. Dredged material would be placed in confined upland disposal areas and for beneficial uses in Delaware Bay.

The improved channel will have a significant impact in allowing more efficient vessel loading, reducing the lightering requirements of crude oil tankers in the lower Delaware Bay, and attracting larger, more efficient container and dry bulk vessels. It is estimated that the proposed deepening will result in annual transportation savings of $24.1 million. Project estimate cost (October 2002) is Federal, $270,250,000, which includes $1,250,000 of Coast Guard contributions. Non-Federal costs are $144,380,000. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: Project Cooperation Agreement (PCA) to be coordinated with the project sponsor.

Operations During Fiscal Year: New Work: Completed refinement of project benefits, continued coordination associated with State of Delaware Permit, and coordination with State of New Jersey concerning Federal Coastal Zone Determination (CZM).

5. DELAWARE RIVER, PA, NJ, AND DE, PHILADELPHIA TO THE SEA

Location: See U.S. COAST and Geodetic Survey Charts 1218, 394, 295, and 280.

Previous project: For details see page 1779 of Annual Report for 1915, and page 299, Annual Report for 1938.

Existing project: Provides for a channel from deep water in Delaware Bay to a point in the bay, near Ship John Light, 40 feet deep and 1,000 feet wide; thence to Philadelphia Naval Base, 40 feet deep and 800 feet wide, with 1,200-foot width at Bulkhead Bar and 1,000-foot width at other bends; thence to Allegheny Avenue, Philadelphia, PA, 40 feet deep and 500 feet wide through Horseshoe Bend and 40 feet deep and 400 feet wide through Philadelphia Harbor, along west side of channel; and for anchorages at Reedy Point, Deepwater Point, Marcus Hook, and Mantua Creek, each 40 feet deep and 2,300 feet wide with respective length of 8,000, 5,200, 12,650, and 11,500 feet; anchorage at Gloucester 30 feet deep and about 3,500 feet long. Project also provides for construction of dikes and training works for regulation and control of tidal flow; for maintenance of an area on north side of channel opposite Philadelphia Naval Base between Shipway 3 and Schuylkill River to 40 feet deep and width of 150 feet on Mifflin Range and 200 feet on West Horseshoe Range; and for maintenance of any areas dredged by local interests to 35 feet deep between channel and a line 100 feet channelward of pierhead line between Point House wharf and Philadelphia Naval Base, when in opinion of Chief of Engineers such areas are so located as to be of benefit to generate navigation. Section included in project is about 96.5 miles long. All depths refer to plane of mean lower low water. Under influence of heavy and long-continued winds extreme tidal range is about 14 feet. Normal maximum velocity of tidal currents in the dredged channel varies between 2 and 3.5 miles per hour. Storm tides may increase maximum to as much as 4.5 miles per hour. Estimated cost for new work is $71,630,000 (July 1972) exclusive of amounts expended on previous projects. Channel to 37 deep and 500 feet wide through Horseshoe Bend and 37 feet deep and 60 feet wide through Philadelphia Harbor along east side of channel and Port Richmond anchorage to 37 feet deep, except for that portion of channel which forms a part of 40 feet deep and 400 feet wide channel portion is to be restudied and excluded from foregoing cost estimate. Estimated cost (July 1960) of this portion of project is $2,951,000. Existing project, excluding work deferred for restudy, is about 66 percent complete. The 40-foot channel from Naval Base to the sea was completed in 1942. Dredging Naval Base to Allegheny Avenue to 40 feet deep was completed in 1962. Enlarging anchorage at Marcus Hook was completed in 1967. Work remaining is to construct new anchorages at Reedy Point and Deepwater Point, and enlarge Mantua Creek anchorage, channel dredging from 35 to 37 feet deep over a width of 500 feet through Horseshoe Bend and about 600 feet through Philadelphia Harbor, and deepening Port Richmond Anchorage to 37 feet, all of which have been deferred for restudy. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Requirements under 1938 River and Harbor Act for maintaining channel and anchorage in Philadelphia Harbor annually by cities of Philadelphia and Camden were removed (see 1962 Annual Report for details.)

Terminal facilities: There are 217 piers, wharves, and docks between Allegheny Avenue, Philadelphia and

the sea, 135 on the waterfront of Philadelphia, Camden, and Gloucester, and 82 below Philadelphia. Facilities are considered adequate for existing commerce. (For further details see Port Series Nos. 7, revised 1967, and 8, revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Routine maintenance of Government owned disposal areas, channel examination surveys and maintenance dredging of the forty foot channel in Marcus Hook and New Castle ranges. Work also included dredging by the U.S. Government Dredge McFarland at a cost of $10,594,999.

6. INLAND WATERWAY FROM DELAWARE RIVER TO CHESAPEAKE BAY, DE & MD

Location: The Waterway begins at Reedy Point on Delaware River, about 41 miles below Philadelphia, PA, and passes through the sea level Chesapeake and Delaware Canal, a distance of 14 miles, to Back Creek, at Chesapeake City, MD. It then passes for 5 miles down Back Creek, thence 9 miles down Elk River to Chesapeake Bay and thence 18 miles down Chesapeake Bay to a point near Pooles Island. A branch channel connects Delaware River at Delaware City, DE, with main channel at a point about 1.5 miles west of Reedy Point. (See U.S. COAST and Geodetic Survey Charts 294, 1226, 570, and 572.)

Previous project: For details see Annual Report for 1934, page 242, and Annual Report for 1938, page 312.

Existing project: A channel 35 feet deep and 450 feet wide from Delaware River through Elk River and Chesapeake Bay to water of natural 35-foot depth in Chesapeake Bay including a cutoff at Penn Central Railroad crossing, and having a maximum radius of curvature of 7,000 feet at bends; a high-level, fixed railroad bridge with vertical clearance of 135 feet and horizontal clearance of 600 feet at the railroad crossing over the cutoff (economic study of railroad crossing requested by Office of Management and Budget resulted in construction of a single track vertical lift bridge in lieu of a high-level fixed railroad bridge); high-level fixed highway bridges over canal at Reedy Point, St. Georges, Summit, and Chesapeake City; a bascule drawbridge across Delaware City Branch Channel; extension of entrance jetties at Reedy Point; and anchorage in Elk River, 35 feet deep and 1,200 feet wide, with an average length of 3,700 feet; enlargement of anchorage and mooring basin in Back Creek to afford an area about 400 feet wide, 1000 feet long, and 12 feet deep; dredging Delaware City Branch Channel to 8 feet deep and 50 feet wide, and deepening existing basin to same depth; revetment of banks of canal as required between Delaware and Elk Rivers, and on banks of Delaware City Branch Channel east of Fifth Street Bridge; and construction of bulkheads. Total of section included in project, excluding Delaware City Branch Channel, which is about 2 miles long, is about 46 miles. All depths refer to plane of low water in Delaware River. Extreme tidal range is from 6.3 feet above mean high water to 3 feet below mean low water.

High-level fixed highway bridges were completed at St. Georges (4-lane) in 1942; at Chesapeake City (2-lane) in 1949; at Summit (4-lane) in 1960; and at Reedy Point (2-lane) in 1969. Relocation of Penn Central Railroad bridge was completed December 21, 1965. Enlargement to 35 feet deep and 450 feet wide was completed in the third quarter of FY 1975 with the exception of the anchorage at Elk River. Removing the old Penn Central railroad bridge was completed on January 21, 1972. Deepening of the Delaware City Branch Channel from 6 to 8 feet from a point 400 feet east of Fifth Street Bridge to its junction with the canal has been deferred for study.

Original cost of canal including purchase was $10,709,755; estimated cost of new work for modifications of 1935 and 1954 are federal cost $166,000,000 (October 1992). This portion is deauthorized. Major Rehabilitation of St. Georges and Summit Bridges was completed in fiscal year 1991 at an approximate federal cost of $20,868,000 (90 price level). Portion of project comprising completion of Delaware City Branch Channel from a point 400 feet east of Fifth Street Bridge to its junction with canal is to be restudied and excluded from foregoing estimate. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: River and Harbor Act of 1954 provided that local interests furnish lands and rights-of-way required for bridges. Assurances accepted and approved February 16, 1955. Requirements for Summit and Reedy Point Bridges have been met.

Terminal facilities: Ample mooring facilities at eastern and western ends of canal and bulkheads at Delaware City and St. Georges were constructed by the United States. A small-boat harbor was provided and a wharf constructed at Chesapeake City. Facilities are considered adequate for existing commerce.

Operations during fiscal year: Maintenance: Work included general maintenance of traffic control television, dispatch service, operation of traffic, administration building, bridges, roadways, grounds, museum, auxiliary works, and periodic bridge inspection. Also included in work was maintenance night lighting, lease of equipment, surveys, environmental monitoring, electrical maintenance, property management, plans and specifications, engineering and design, and supervision and administration. There was also work on the Disposal Material Management Plan, Geographical Information System, Environmental Review Guide for Operations assessment, mosquito control, monitoring data, monitoring stabilization banks, and miscellaneous repairs. There was also maintenance dredging by B+B Dredging Company removing a total of 574,569 cubic yards of material at a total cost of $3,634,000.

7. INLAND WATERWAY, REHOBOTH BAY TO DELAWARE BAY, DE

Location: A tidal canal in southeasterly part of Sussex County, DE. It extends 12 miles northward from Rehoboth Bay through high land west of town of Rehoboth to Gordon Lake; thence down Lewes River to its junction with Broadkill River near its mouth. An entrance to the waterway from Delaware Bay is about 4 miles above Cape Henlopen. (See U.S. Coast and Geodetic Survey Charts 379, 1218, and 1219.)

Previous project: A canal along a slightly different route formed a part of projected waterway from Chincoteague Bay, Va. to Delaware Bay, begun in 1886 and abandoned in 1905.

Existing project: This provides for an entrance channel near Lewes 10 feet deep and 200 feet wide protected by two parallel jetties 500 feet apart; thence a channel 10 feet deep and 100 feet wide to South Street Bridge at Lewes, and a basin of the same depth 1,200 feet long and up to 375 feet in width at the latter point; thence a channel 6 feet deep and 100 feet wide (40 feet wide through Deep Cut near Rehoboth Bay) to Rehoboth Bay; a channel 6 feet deep and 100 feet wide from the entrance to Broadkill River; two parallel rubble jetties 725 feet long at the Rehoboth Bay entrance; and the construction of the one highway bridge and one railroad Bridge to Rehoboth. The total length of the section included in the project is about 12 miles.

The extension of the jetties at the Delaware Bay entrance is considered to be inactive and is excluded from the foregoing cost. The cost of the portion was last revised in 1960 and was estimated to be $816,000. Existing project is about 70 percent complete. For details on completed work see page 241 of Annual Report for 1963. Work remaining, extension of existing jetties at Delaware Bay entrance, is considered inactive. The Sheet Pile Jetty at the Delaware Bay entrance was removed during Fiscal Year 1987. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Complied with except local interest must furnish suitable terminal facilities and necessary spoil-disposal areas.

Terminal facilities: See page 228, Annual Report 1962.

Operations during fiscal year: Maintenance: Work included a real estate inspection of all government outgrants for use of Federal property as well as all lands the government holds an interest in, be it by fee or easement right, from Savannah Ave. Bridge to Rehoboth Bay. Also, a channel examination of the Federal channel from Roosevelt Inlet to Savannah Ave. Bridge was performed by our in-house survey force.

8. MANASQUAN RIVER, NJ

Location: This small stream flows in eastern part of New Jersey, rises near Freehold, flows easterly and empties into the Atlantic Ocean, about 26 miles south of Sandy Hook. (See U.S. Coast and Geodetic Survey Chart No. 795).

Previous projects: For details see Annual Report for 1909, page 186, and Annual Report for 1938, page 269.

Existing project: A channel 14 feet deep and 250 feet wide, protected by jetties and other works, extending from the Atlantic Ocean to inner end of north jetty, thence 12 feet deep and 300 feet wide to within 700 feet of New York and Long Branch Railroad bridge, thence of same depth and narrowing to 100 feet wide to within 300 feet of bridge; for a widening on northerly side of channel of 200 feet for 3,150 feet and 8 feet deep on south side of channel and for a 27.5-acre anchorage to 12 feet deep about 0.5 miles west of Route 35 highway bridge. Section included in project is about 1.5 miles long. Mean tidal range is 3.7 feet at inner end of inlet and 4 feet at ocean end; mean range of spring tides, 4.4 and 4.8 feet, respectively, irregular fluctuations due to wind and barometric pressure vary from 2.7 feet below to 7.5 feet

above mean low water at inner end of inlet. Project, excluding 10-and 12-foot anchorages, cost $518,243. Estimated cost (1958) for 10 and 12-foot anchorages portion of project considered inactive is $504,000. Restoration of bulkheads completed 16 August 1965 at a cost of $117,807. Existing project was completed in June 1963. Dredging 19-acre anchorage south of channel and 27.5-acre anchorage west of highway bridge is in the inactive category. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: River and Harbor Act of 1945 provides that local interests must furnish lands and rights-of-way for construction and future maintenance and hold the United States free from damages. Assurances to date have been complied with.

Terminal facilities: Five landings with a total wharfage of 700 feet used by commercial fishermen, and 7 landings and boat basins for pleasure craft. Existing facilities are considered adequate for present requirements.

Operations during fiscal year: Maintenance: Emergency channel dredging by the U.S. Government hopper dredge Currituck removed 36,130 cubic yards of material at a cost of $84,000.

9. MISPILLION RIVER, DE

Location: Rises in Kent County and Sussex Counties, DE, flows northeasterly 15 miles along the boundary line between the two counties and empties into Delaware Bay about 16 miles above Cape Henlopen. (See Coast and geodetic Survey Chart 1218.)

Previous project: For details see page 1786, Annual Report for 1915, page 448 of Annual Report for 1918, and page 327 of Annual Report for 1938.

Existing project: Project is about 31 percent complete. Four cutoffs for 6-foot channel were completed in 1923; 6-foot channel from Delaware Bay to Milford in 1924; and jetties at the mouth in 1939. Work remaining is dredging channel to 9-foot depth, 80 feet wide in Delaware Bay to the mouth, thence 60 feet wide to Milford with the provision of three cutoffs to eliminate bends, and a turning basin at Milford. Controlling depths at mean low water, in October 1964 from Delaware Bay to mouth 7.1 feet, and thence to fixed highway bridge at Report 1957, (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Assurances required by 1954 River and Harbor Act has not been furnished. For details see page 243, Annual Report for 1957. Prior requirements fully complied with.

Terminal facilities: For details see page 244, Annual Report for 1957.

Operations during fiscal year: Maintenance: Condition surveys of the stone revetment and the Federal navigation channel were performed.

10. MURDERKILL RIVER, DE

Location: Rises in Kent County, DE, flows northeasterly 19 miles through county, and empties into Delaware Bay about 25 miles above Cape Henlopen. (See U.S. Coast and Geodetic Survey Chart no. 1218.)

Existing project: Provides for a channel 7 feet deep at mean low water, 150 feet wide in Delaware Bay to mouth, and thence 80 feet wide to Frederica, 7.5 miles above mouth. Total length of section included in project is about 8.5 miles. Extreme tidal range is from about 1 foot below mean low water to about 2 feet above mean high water.

Estimated cost for new work revised in 1954 is $38,000. Portion comprising widening channel to project width throughout its length is to be restudied and excluded from foregoing cost estimate. Estimated cost of this portion last revised in 1954 was $86,000. Project was authorized by River and Harbor Act of July 13, 1892 (H. Ex. Doc. 21, 52d Cong., 1st Sess. See page 981 Annual Report for 1892). Latest published map is in House Document 1058, 62d Congress 3rd Session.

Existing project about 30 percent complete, including revision to be restudied. Channel 7 feet deep and 60 feet wide was completed in 1911. Work remaining is widening the channel to project width. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: None required.

Terminal facilities: There are a number of light timber wharves on both sides of river near mouth and two wharves at Frederica, all privately owned. Facilities are considered adequate for existing commerce.

Operations during fiscal year: Maintenance: A channel examination of the project entrance channel was performed by our in-house survey group.

11. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645.

Name of Project	Cost to Sept. 30, 2003
Preliminary Restoration Plan	
Fortescue, NJ	$ 10,000

12. NEW JERSEY INTRACOASTAL WATERWAY

Location: A sea level inland water route approximately parallel with New Jersey coast, extends from Atlantic Ocean at Manasquan Inlet, about 26 miles south of Sandy Hook, NJ to Delaware Bay about 3 miles above Cape May Point. Waterway extends through inlet and up Manasquan River about 2 miles; thence by Point Pleasant Canal through high ground for 2 miles to head of Barnegat Bay. It then passes through a series of bays, lagoons, and thoroughfares along New Jersey coast to Cape May Harbor; thence across Cape May County to Delaware Bay through a land cut by way of New England Creek basin. (See U.S. COAST and Geodetic Survey Charts, 234, 795, 825, 826, 827, 1216, 1217, 1218, and 1219.)

Existing project: This provides for a channel 12 feet deep at mean low water and generally 100 feet wide, extending from the Atlantic Ocean at Manasquan Inlet, NJ to Delaware Bay above Cape May, NJ, by the further improvement of Manasquan River and Inlet, NJ, and the present New Jersey Intracoastal Waterway, and by the construction of a canal of similar dimensions from Cape May Harbor to Delaware Bay via the New England Creek basin, with adequate jetties at the Delaware Bay entrance. The total length of the project is about 117 miles. The unconstructed portion of the project, deepening the channel from 6 feet to 12 feet from the Atlantic Ocean at Manasquan Inlet to Cape May Harbor, was deauthorized on 1 January 1990, by PL 99-662. Normal tide range in sections of the waterway remote from inlets is 0.5 foot.

Estimated cost for new work is $71,549 (July 1969), exclusive of $1,824,940 Navy Department funds and $99,000 contributed by local interests. Portion of project extending from Manasquan River to Cape May Harbor is to be restudied and excluded from new work costs estimate. Estimated cost of this portion is $6,470,000 (July 1954). Existing project was adopted by 1945 River and Harbor Act (H. Doc 133, 76th Cong., 1st Sess.) Latest published map is in project document. River and Harbor Act of 1946 (Public Law 525, 79th Cong., 2nd Sess., as extended by Public Law 240, 82d Cong.), authorized use for a period not to exceed 6 years, of funds from appropriations heretofore or hereafter made for maintenance and improvement of rivers and harbors, for maintenance of canal from Cape May Harbor to Delaware Bay constructed as an emergency wartime project with Navy Department funds, including cost of maintaining temporary railroad and seashore highway bridges over canal.

A canal 12 feet deep and 100 feet wide from Cape May Harbor to Delaware Bay was completed in 1942 as well as two parallel stone jetties at Delaware Bay entrances and a temporary highway and a railroad bridge in 1944, all with Navy Department funds. The project between Ottens Harbor and Richardson Channel and from that point to Cape May are being maintained to 10 feet and 12 feet, respectively, since they were originally dredged to these depths by the State. Section 860 of the Water Resources Development Act of 1986 authorized, for preconstruction engineering and design, a 15 foot depth in the Vicinity of Cape May Harbor, titled as Cold Spring Inlet. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: The project is subject to the conditions that the State of New Jersey cede to the United States all right, title, and interest that it has acquired to lands, easements, rights-of-way, and structures other than bridges for the Bayhead-Manasquan Canal; that the State of New Jersey furnish, free of cost to the United States, all lands, easements, rights-of-way, and disposal areas required for construction of the Cape May Canal and for improvement of the proposed waterway and for their subsequent maintenance; that local interests provide, maintain, and operate suitable bridges over the waterway; that the State of New Jersey donate to the United States the navigation aids in use on the present New Jersey Intracoastal Waterway; and that the State of New Jersey hold and save the United States and its agents free from any claims for damages resulting from the work of improvement. Compliance with these conditions was completed January 15, 1954, except that local interests are required to furnish disposal areas for the construction

and the subsequent maintenance of the proposed improvements.

Terminal facilities: See Annual Report for 1962.

Operations during fiscal year: Maintenance: Work included general maintenance, surveys, and gabion repairs along the Cape May Canal. Maintenance dredging by Barnegat Bay Dredging Company removed 154,474 cubic yards of material at a total cost of $1,545,200. Real Estate inspections were also conducted.

13. RECONNAISSANCE AND CONDITION SURVEYS

Reconnaissance Surveys	Survey Conducted
Maurice River, NJ	April 2003

Condition Surveys	Survey Conducted
Barnegat Inlet, NJ	June 2003
Cape May Inlet, NJ	June 2003
Cohansey River, NJ	September 2003
Inland Waterway – C&D Canal Chesapeake Bay	September 2003
Manasquan Inlet, NJ	August 2003
Mispillion River, DE	June 2003
Murderkill River, DE	May 2003
New Jersey Intracoastal Waterway, Cape May Canal, NJ	June 2003
Roosevelt Inlet, Lewes & Rehoboth Canal, DE	June 2003
Salem River, NJ	August 2003

14. REGIONAL SEDIMENT MANAGEMENT PILOT PROGRAM

Location: Cape May Inlet, Cape May County, New Jersey.

Existing project: The beaches immediately east and west of Cape May Inlet experience problems related, respectively, to an excess and a deficit of sediment supply. Because the Cape May beachfill is located just downdrift of the Cape May Inlet jetties (completed in 1911), sediment transport from the north into the area is interrupted and erosion has been the predominate historical trend. Between 1943 and 1977, accretion as high as 1,000 feet occurred along the ocean frontage just south of Hereford Inlet. Prior investigations indicate that sand appears to be bypassing the inlet on the ebb-tidal shoal.

A Federal beach erosion control project was initiated in 1990 for the US Coast Guard Base and the City of Cape May, immediately west of Cape May Inlet. Sand for construction and subsequent nourishment of this project has been obtained from an offshore borrow site, but that site has an insufficient reserve of material for future nourishment needs. The District is investigating alternative sources for the approximate 200,000 cubic yards a year demand at Cape May City and the USCG Base. Contrasting the erosion on the downdrift (southwest) side of Cape May Inlet is the accumulation of sediment on the updrift beaches of Wildwood Crest and Wildwood City. The excess of sediment supply there has resulted in at least two problems: storm water outfalls that do not drain because of beach width accretion, and excessive beach widths that make recreational beach user access to the “shoreline” problematic.

The District is presently evaluating a range of options for removing sediment from the updrift beaches for use in nourishing the beach downdrift of Cape May Inlet. Two essentially different concepts are being considered for remedy of the sediment excess/deficit problems on the updrift/downdrift shorelines adjacent to Cape May Inlet. The first would involve a more-or-less continuous (low) level of sand bypassing using a fixed bypass plant across Cape May Inlet. Excess sand would be obtained for Wildwood and Wildwood Crest by either mechanical pan scraping or small hydraulic plant and stockpiled at the bypass plant location. The second approach considered for bypassing sediment across Cape May Inlet involves periodic (i.e., once per year, or less frequently) dredging from the east jetty fillet by means of a conventional floating hydraulic pipeline dredge. In this plan, sediment would be bypassed across the inlet infrequently at large volume rates, as compared to the “continuous,” low-volume transport rate associated with the first plan (above.) This alternative would still require a method of obtaining sand from the Wildwood and Wildwood Crest beaches, such as the mobile pan scraper concept. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Local and Federal interests must furnish lands and rights-of-way for construction and

future maintenance and hold the United States free from damages. Assurances to date have not been obtained.

Operations during fiscal year: Maintenance: Coordination with Environmental stakeholders, Engineer Research and Development Center, and Corps of Engineers Waterways Experiment Station. Database framework was developed and development of a rapidly deployed beach surveying system was completed and filed testing completed. Coordination with the local municipalities was begun.

15. SCHUYLKILL RIVER, PA

Location: Rises in Schuylkill County, PA, flows generally southeasterly 150 miles, and empties into Delaware River at Philadelphia, PA (See U.S. Coast and Geodetic Survey Charts 295 and 280.)

Previous project: For details see page 325, Annual Report for 1932.

Existing project: This provides for a channel 33 feet deep and 400 feet wide in Delaware River the mouth and within the river to 29th Street, .75 mile above the mouth; thence the same depth and 300 feet wide to Passyunk Avenue Bridge, 3.5 miles above the mouth; thence 26 feet deep and 300 feet wide to Gibson Point, 4.5 miles above the mouth; and thence 22 feet deep and 200 feet wide to University Avenue Bridge, 6 miles above the mouth, including widening at bends. The total length of the section included in the project is about 6.5 miles. All depths refer to the plane of mean lower water. The extreme tidal range, due to freshets and prolonged heavy winds, is about 14 feet.

The cost for new work for the completed existing project was $7,440,000. Existing project was completed in September 1962. For details see Annual Report for 1962. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: The River and Harbor Act of July 24, 1946, imposed the condition that the City of Philadelphia agree to remove 60,000 cubic yards, place measurement, of material annually from that portion of those portions of the project which the District Engineer may designate until such time as adequate municipal sewage-treatment works are constructed and placed in effective operation. Compliance with this condition has been met through the completion of sewage-treatment works by the City of Philadelphia. All other requirements have been fully complied with.

Terminal facilities: There are 38 wharves, piers, and docks within limits of improvement. Facilities are considered adequate for existing commerce. (For further details see Port Series No. 7, Revised 1967, Corps of Engineers.)

Operations during fiscal year: Maintenance: Maintenance dredging was performed from the mouth to the Passyunk Avenue bridge by Cottrell Engineering Corporation removing 265,664 cubic yards of material at a cost of $355,680.

16. WILMINGTON HARBOR, DE

Location: Formed by Christina River, which rises in New Castle County, DE, flows northeasterly 16 miles, passing through the City of Wilmington, DE, and empties into Delaware River about 29 miles below Philadelphia, PA (See U.S. Coast and Geodetic Survey Chart 294.)

Previous project: For details see page 1785 of Annual Report for 1915 and page 308 of Annual Report for 1938.

Existing project: This provides for a channel 38 feet deep and 400 feet wide from west edge of Delaware River ship channel to Lobdell Canal, a distance of about 1.2 miles; thence 21 feet deep and 250 feet wide for the distance of .8 mile to the mouth of Brandywine River; thence the same depth and 200 feet wide for a distance of about 2.2 miles to a point approximately 4.2 miles from the Delaware River ship channel; thence decreasing to a depth of 10 feet in a distance of 750 feet to Penn Central Railroad bridge No. 4; and thence 7 feet deep and 100 feet wide for a distance of about 5.6 miles to Newport, DE, approximately 9.9 miles above Delaware River ship channel, including a turning basin 38 feet deep opposite the Wilmington Marine terminal and extending upstream from the mouth to Lobdell Canal, 320 feet wide, 2,900 feet long on the north side of the channel and decreasing to a length of 2,000 feet on the north side of the basin. It also provides for the removal of about 1,200 feet of the outer end of a stone-filled, pile-and-timber crib jetty constructed 2,150 feet long on the north side of the entrance; for a steel sheet-pile jetty 2,300 feet long, with 120-foot inshore wing, on the south side of the entrance, and for a V-shaped stone-filled pile-and-timber jetty at the mouth of Brandywine River 430 feet along the north side of Brandywine and 260 feet long on the Christina. Depths refer to the plane of mean low water. The extreme tidal range, due to prolonged heavy winds, is about 13 feet. Existing project was completed in 1962.

(For details see page 222, Annual Report 1962). Authority from Section 107 of the River and Harbor Act of July 1960 provide for channel and turning basin deepening from 35 to 38 feet and the turning basin widened from 200 to 320 feet. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Fully complied with.

Terminal facilities: There are 18 piers, wharves, and docks within limits of the improvement. Facilities considered adequate for existing commerce. (For further details see Port Series No.8, revised 1966-Corps of Engineers.)

Operations during fiscal year: Maintenance: Routine maintenance of disposal areas, channel examination surveys, and contract administration. Also, a contract for maintenance dredging of both the 35-foot and 38-foot project channels was completed by Norfolk Dredging Company removing 893,565 cubic yards of material at a cost of $1,409,333. Contract work to raise dikes at Wilmington North was completed.

Shore Protection:

17. BRIGANTINE INLET TO GREAT EGG HARBOR INLET (ABSECON ISLAND, NJ)

Location: This project is located along the Atlantic Coast of New Jersey in Atlantic County, approximately 50 miles east of Philadelphia, Pennsylvania. It is 8.1 miles in length, extending from Absecon Inlet to Great Egg Harbor Inlet.

Existing project: The project consists of providing 7.1 million cubic yards of initial beachfill, with subsequent periodic nourishment of 1.7 million cubic yards every three years, for a 200-foot-wide berm at elevation 8.5 feet above mean low water and a dune to elevation 16 feet above mean low water for Atlantic City, and a 100-foot-wide berm at elevation 8.5 feet above mean low water and a dune to 14 feet above mean low water for Ventnor, Margate and Longport along 8.1 miles of shoreline. The plan also includes 0.3 miles of bulkhead construction along the Absecon Inlet frontage of Atlantic City. Project estimate cost (October 2002) is $560,000,000, of which $364,000,000 is federal costs and $196,000,000 is non-federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: The existing authority for this project is Section 101 (b) (13) of WRDA 1996. The Project Cooperation Agreement was signed by the New Jersey Department of Environment Protection July 31, 2003.

Operations during fiscal year: New work: Phase I on the project, 4.3 million cubic yards of initial beachfill placement in Atlantic City and Ventnor City, was awarded September 2003. Coordination efforts with the New Jersey Department of Environmental Protection and the local communities of Atlantic City, Margate and Longport. The work included coordination of real estate issues, environmental requirements, bulkhead plans, and the beachfill plans.

18. BRIGANTINE INLET TO GREAT EGG HARBOR INLET (BRIGANTINE ISLAND, NJ)

Location: This project is located along the Atlantic Coast of New Jersey in Atlantic County, approximately 50 miles east of Philadelphia, Pennsylvania. It is approximately 2 miles in length, extending from Brigantine Inlet to Great Egg Harbor Inlet, encompassing Brigantine Island.

Existing project: The project consists of providing 753,000 cubic yards of initial beachfill, with subsequent periodic nourishment of 312,000 cubic yards every six years, for a 100 foot-wide berm at elevation 6 feet above mean low water and a dune to elevation 10 feet above mean low water. The plan also includes 12,000 lineal feet of sand fencing and the planting of 10 acres of dune grass along the project's length. A bubble system will also be installed to divert municipal stormwater that requires 50 lineal feet of iron pipe and two catch basin structures. Estimated cost of project (October 2002) is $88,300,000, of which $57,400,000 is federal costs and $30,900,000 is non-federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: The local sponsor for this project is the New Jersey Department of Environmental Protection. Federal participation in the proposed project is recommended and contingent on the local sponsor

signing the Project Cooperation Agreement.

Operations during fiscal year: Work included real estate studies, engineering and design and negotiation of the Project Cooperation Agreement.

19. CAPE MAY INLET TO LOWER TWP., NJ

Location: The project is located in Cape May County and extends along the beach front from the western side of Cape May Inlet to the boundary of Lower Township, and Cape May City.

Existing project: The plan, as presented in HD 94-641, was authorized for the Phase I Design Memorandum Stage of Advance Engineering and Design by Section 101a of the Water Resources Development Act of 1976, proposes the following features: breakwater on the updrift side of Cape May Inlet; beachfill from Cape May Inlet to Cape May Point; provision of a dune with sand fence and grass from Cape May Inlet to Wilmington Avenue; construction of two groins in Cape May City and seven groins in Lower Township; inclusion of all groins comprising the existing project; and periodic nourishment of the beaches and maintenance of the dune and dikes.

The Phase I GDM, completed in August 1980 and approved by the Chief of Engineers in December 1981, determined that only beach erosion control measures in Cape May City are warranted. The plan proposed in that document consists of modifying the existing navigation project for Cape May Inlet to provide; a weir-breakwater at Cape May Inlet with construction being deferred pending demonstration of need; two new groins at Trenton and Baltimore Avenues in Cape May City; placement of beachfill between Cape May Inlet and the terminal groin at Third Avenue in Cape May City; maintenance of two new groins and existing groins in Cape May; periodic beach maintenance with material obtained from deposition basin on the northeast side of Cape May Inlet; and institution of a beach monitoring program in Lower Township area. Work for the initial beachfill was accomplished as follows; USGS feeder beach fiscal year 1989, Cape May City groin fiscal year 1990, and Beachfill Cape May City fiscal year 1991. Project estimate cost (October 2002) is Federal, $150,700,000, which includes $54,900,000 of Coast Guard contributions. Non-Federal costs are $10,600,000.

The existing authority is for Phase I studies as provided by Section 101(a) of the Water Resources Development Act of 1976 in accordance with the provision of House Document 94-641. Continuation of planning and engineering for this proposed project was initiated in October 1977. The Phase I GDM was completed in August 1980 and approved by the Chief of Engineers in December 1981. Phase II AE&D studies were completed in July 1983. The project was authorized for separable elements under Section 501(a) of the Water Resources Development Act of 1986, PL 99-662. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: The State of New Jersey furnished a letter of intent on 6 May 1981 regarding their willingness to comply with the above items of local cooperation. In addition, a draft Section 221 local cooperation agreement has been coordinated with letter of intent on May 31, 1983 regarding compliance with the items of local cooperation.

Operations during fiscal year: New Work: Work included periodic nourishment, supervision and administration, engineering and design, hydraulic studies including project performance monitoring and analysis, and monitoring data collection including beach profile surveys and aerial photography.

20. DELAWARE BAY COASTLINE, PORT MAHON, DE & NJ

Location: The Port Mahon environmental restoration and protection project is located in Kent County, Delaware along the Delaware Bay coastline. The study area is located on the south bank near the mouth of the Mahon River and extends for roughly 1.5 miles along the Delaware Bay coastline. Port Mahon is situated about 7.5 miles east of Dover, Delaware and approximately 3 miles northeast of Little Creek, the nearest town.

Existing project: The project consists of three elements designed to restore the ecosystem at Port Mahon. The first element consists of restoration of 19.2 acres of horseshoe crab habitat through the placement of 306,000 cubic yards (cy) of sand for approximately 4,900 feet along the shoreline with 150-foot tapers at each end to tie into the existing upland. The plan also includes construction of a 1200-foot revetment at the southern end of the proposed project to tie into the existing revetment from the termination of the beachfill to provide stability. Periodic nourishment of approximately 150,000 cubic yards of sand is scheduled to occur every 7 years for the 50-year project life. The second element of the project calls for raising State Road 89 to +7.0 feet North American Vertical Datum (NAVD) for a distance of

7,500 feet to protect 59.1 acres of wetlands to the west of State Road 89 from excessive damaging overwash. A total initial volume of 15,800 cubic yards of fill material would be required to raise State Road 89. In addition, 13,600 square yards of geotextile and 3,500 cubic yards of crushed stone would be used for the road surface. The third element consists of restoration of 21.4 acres of degraded marsh west of State Road 89. This calls for the reestablishment of daily tidal inundation into the wetlands and the creation of three open water ponds of 1-acre size. Removal of material to an elevation 6 inches below the mean high water line would enable replacement of the existing common reed (Phragmites) with smooth cordgrass (Spartina alterniflora), a more productive plant community. The excavation of the marsh, ponds, and ditches would generate approximately 96,000 cubic yards of material that would be placed adjacent to the active disposal area owned by the Delaware Department of Natural Resources and Environmental Control (DNREC). This placement is estimated to result in 10 acres of upland habitat, which would contribute to habitat diversity. Approximately 15,500 cubic yards of material would be accommodated at the DNREC site. Estimated cost of project (October 2002) is $65,700,000 of which $42,700,000 is Federal costs and $23,000,000 is required non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: Federal participation in the proposed project is contingent upon a signed Project Cooperation Agreement (PCA) with the local sponsor that identifies the required items of local cooperation.

Operations during fiscal year: New Work: Review and update plans and specifications, obtain environmental permits, prepare a Limited Reevaluation Report (LRR), prepare an Environmental Assessment (EA), and coordinate a Project Cooperation Agreement (PCA).

21. DELAWARE BAY COASTLINE, REEDS BEACH TO PIERCES POINT, DE & NJ

Location: The Reeds Beach/Pierces Point project area is located within Middle Township, Cape May County, bordering the Delaware Bay in New Jersey. The project area begins at Bidwell Creek and extends approximately three miles south to Pierces Point.

Existing project: The project consists of providing initial beachfill for the purposes of environmental restoration, and storm damage/erosion control. The project provides a total of 5,000 linear feet of berm (6,800 feet including tapers) with a minimum of 80-foot widths at a landward elevation of +5.5 feet NAVD and a bayward elevation of +3.5 feet NAVD with a 40H:1V slopes along two locations at Reeds Beach and Pierces Point. The estimated project cost (October 2002) is $5,100,000 of which $3,320,000 is Federal costs and $1,780,000 is required non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to September 30, 2003.)

Local Cooperation: Federal participation in the proposed project is recommended and contingent upon the local sponsor signing the Project Cooperation Agreement (PCA) that identifies the required items of local cooperation.

Operations during fiscal year: New Work: Coordinated Project Cooperation Agreement (PCA) with non-Federal sponsor and completed preconstruction engineering and design.

22. DELAWARE BAY COASTLINE, ROOSEVELT INLET/LEWES BEACH, DE

Location: The Roosevelt Inlet-Lewes Beach project area is located in Sussex County in Southern Delaware at the entrance to the Delaware Bay. Sussex County is one of three counties in the State of Delaware. It is bordered on the east by the Atlantic Ocean, on the south and west by Maryland and on the north by Kent County. The project area begins at Roosevelt Inlet and extends southeast along Lewes Beach for approximately 1,400 feet.

Existing project: The project consists of providing initial beachfill with subsequent periodic nourishment. The project for the purposes of navigation mitigation and hurricane and storm damage reduction provides for a 25-foot wide berm at an elevation of +8.0 feet North American Veritical Datum (NAVD), and a dune at an elevation of +14.0 feet NAVD over a total project length of 1,400 feet. The total project width of the berm and dune, including side slopes, is 100 feet. The project includes dune grass, dune fencing and suitable advance beachfill and periodic nourishment every six years over the 50-year project life to ensure the integrity of the design. The project also provides for reconstruction of the south jetty at Roosevelt Inlet. The south jetty will be parallel to and will extend into the bay an equal distance

as the north jetty on the opposite side of the inlet. The south jetty will have a top elevation of +5.1 feet NAVD and a bottom elevation of –6.0 feet NAVD. The top width of the jetty will be 12 feet and it will have 2H:1V side slopes. Estimated cost of project (October 2002) is $40,600,000 of which $31,400,000 is Federal costs and $9,200,000 is required non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to September 30, 2003.)

Local Cooperation: Federal participation in the proposed project is recommended. A Project Cooperation Agreement (PCA) with the local sponsor that identifies the required items of local cooperation was signed in November 2002.

Operations during fiscal year: New Work: Execute Project Cooperation Agreement (PCA), preconstruction engineering and design, real estate acquisition, and award of the initial construction contract.

23. DELAWARE COAST FROM CAPE HENLOPEN TO FENWICK ISLAND, DE (REHOBOTH BEACH TO DEWEY BEACH, DE)

Location: The Rehoboth Beach to Dewey Beach project area stretches for approximately 2 miles along the northern part of the Atlantic Ocean coast of Delaware in Sussex County, Delaware. From north to south the project area includes the Town of Rehoboth Beach, the unincorporated region in front of Silver Lake (under Sussex County jurisdiction), and the Town of Dewey Beach. (See NOAA Nautical Chart Number 12214).

Existing project: The project consists of providing initial beachfill with subsequent periodic nourishment. The proposed plan consists of one continuous project, from the northern end of Rehoboth Beach to the southern border of Dewey Beach, a distance of 13,500 linear feet. Along Rehoboth Beach, the plan provides for a 125-foot wide beach berm at elevation +7.2 feet North American Vertical Datum (NAVD) and a dune at elevation +13.2 feet NAVD. At Dewey Beach, the project would transition to a 150-foot wide beach berm at elevation +7.2 feet NAVD and a dune at elevation +13.2 feet NAVD. The plan requires the initial placement of 1,400,000 cubic yards of material and subsequent periodic nourishment of approximately 277,000 cubic yards of material every 3 years throughout the 50-year project life to ensure the integrity of the design. The material for the initial construction and subsequent periodic nourishment will be taken from an offshore borrow area. The plan also includes the extension of stormwater outfalls at Rehoboth Beach. Appurtenant project features such as dune grass planting, sand dune fencing, vehicle access ramps, and dune walkovers are included with the plan as well. Estimated cost of project (October 2002) is $170,000,000 of which $110,000,000 is Federal costs and $60,000,000 is required non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to September 30, 2003.)

Local Cooperation: Federal participation in the proposed project is recommended and contingent upon the local sponsor signing the Project Cooperation Agreement (PCA) that identifies the required items of local cooperation.

Operations during fiscal year: New Work: Obtained environmental permits, coordinate Project Cooperation Agreement (PCA), preconstruction engineering and design and real estate acquisition.

24. DELAWARE COAST FROM CAPE HENLOPEN TO FENWICK ISLAND, DE (FENWICK ISLAND, DE)

Location: The Fenwick Island project area is located in Sussex County, and is the southernmost point on the Delaware ocean coast. It extends for approximately 6,000 feet, and lies just north of the Delaware-Maryland state border. Fenwick Island is bordered to the north by Fenwick Island State Park, to the west by Little Assawoman Bay, and to the south by Ocean City, Maryland.

Existing project: The project consists of providing initial beachfill with subsequent periodic nourishment. The project for the purpose of storm damage reduction provides for a 75-foot wide berm at an elevation of +7.7 feet North American Vertical Datum (NAVD), and a 125-foot wide dune at an elevation of +17.7 feet NAVD, over a total project length of 6,500 feet. The total project width including the berm and dune is 200 feet. The plan requires the initial placement of 600,000 cubic yards of material and subsequent periodic nourishment of approximately 320,000 cubic yards of material every 4 years throughout the 50-year project life to ensure the integrity of the design. The material for the initial construction and subsequent periodic nourishment will be taken from an offshore borrow area. Appurtenant project features such as dune grass planting, sand dune fencing, vehicle access ramps, and dune walkovers are included

with the plan as well. Estimated cost of project (October 2002) is $155,000,000 of which $78,600,000 is Federal costs and $76,400,000 is required non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to September 30, 2003.)

Local Cooperation: Federal participation in the proposed project is recommended and contingent on the local sponsor signing the Project Cooperation Agreement (PCA).

Operations during fiscal year: New Work: Completion of preconstruction engineering and design.

25. DELAWARE COAST PROTECTION, DE

Location: The project is located in Sussex County, Delaware, on the Atlantic Ocean and starts immediately south of Delaware Bay extending in a southerly direction a distance of 24.5 miles to Fenwick Island on the Delaware-Maryland border.

Previous Project: The previous project, adopted as HD 85-216 in 1958 and modified by P.L. 87-874 in 1962, provided for Federal participation in the cost of restoration and subsequent periodic nourishment, and the initial periodic nourishment was completed in 1957 by local interests. The second increment of beach replenishment by local interest was completed in 1963.

Existing project: Provides a sand bypass system and periodic nourishment until 2021. (For details, see S. Doc. 90, 90th Cong. 2nd Sess.) Estimated cost of project (October 2002) is $29,100,000 of which $13,400,000 is federal costs and $15,700,000 is required non-Federal costs. The construction of the feeder beach north of Indian River Inlet was completed in 1973 and nourished in 1978, and 1984. Section 869 of the Water Resources Development Act of 1986 deauthorized the unscheduled portion of the project. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Assurances of local cooperation were provided by the State of Delaware, January 13, 1981.

Operations during fiscal year: New work: Work included supervision and administration, engineering and design, monitoring, environmental coordination, and sand bypassing.

26. GREAT EGG HARBOR INLET & PECK BEACH, NJ

Location: The project is located in Cape May and Atlantic Counties, New Jersey. Great Egg Harbor Inlet, an unimproved inlet, is about 1.1 miles wide at its narrowest point and provides a tidal connection between the Atlantic Ocean, Great Egg Harbor Bay, the New Jersey Intercoastal Waterway, and Great Egg Harbor River. Peck Beach is occupied in its entirety by the City of Ocean City and extends from Great Egg Harbor Inlet southward to Corson Inlet. The ocean frontage is about eight miles in length.

Existing project: The project consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of 8 feet above mean low water. The beachfill extends from Surf Road southwest to 34th Street with a 1000 foot taper south of 34th Street. This plan required the initial placement of 6,200,000 cubic yards of material and subsequent periodic nourishment of approximately 1,100,000 cubic yards every three years. The material for the initial construction, and periodic nourishment is being taken from the ebb shoal area located approximately 5,000 feet offshore of the Great Egg Harbor Inlet. Additionally, the construction of the project required the extension of 38 storm drainpipes. All work is programmed. Estimated cost for new work (October 2002) Federal share is $443,000,000 and non-Federal is $239,403,700. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: The Local Cooperation Agreement was executed in September 1991 with the State of New Jersey Department of Environmental Protection Agency.

Operations during fiscal year: New work: Work included plans and specifications, engineering and design, supervision and administration, hydraulic studies of project performance, and project performance monitoring including beach profile surveys, inlet bathymetry and aerial photography.

27. LOWER CAPE MAY MEADOWS, NJ

Location: The project area includes Lower Cape May Meadows, which consists of Cape May Point State Park and the Cape May Migratory Bird Refuge, and the Borough of Cape May Point. The Lower Cape May Meadows area consists of approximately 343 acres and extends through the Borough of Cape May Point, totaling about 2 miles along the southern Atlantic coast of New Jersey.

Existing project: The plan for the purposes of navigation mitigation, ecosystem restoration, and hurricane and storm damage reduction consists of an initial construction sand quantity of 1,400,000 cubic yards to be placed for a total length of 11,000 ft, and 650,000 cubic yards of periodic nourishment every 4 years over the 50-year project life; a dune with a 100 ft-wide base, and a 25 ft-wide crest at a height of 16.75ft (NAVD88); a berm 100-150 feet wide in the vicinity of Cape May Point and 200-450 feet wide in the vicinity of Lower Cape May Meadows; planting of 18 acres of dune vegetation; seaward restoration of 35 acres of emergent wetland; elimination of 95 acres of the nuisance plant Phragmites australis; planting of 105 acres of wetland vegetation; excavation of existing drainage ditches to restore fresh water flow; creation of drainage ditches to link hydrological segments of a project area; installation of two weir-flow control structures; creation of six fish reservoirs; and construction of elements to create 25 acres of tidal marsh. The project also includes monitoring and adaptive management over a 5-year period for the Lower Cape May Meadows freshwater wetlands restoration element. Estimated project cost is $191,000,000 of which $152,400,000 is Federal cost and $38,600,000 is non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local Cooperation: Project Cooperation Agreement (PCA) was signed July 28, 2003 with New Jersey Department of Environmental Protection. Federal participation in the proposed project is supported by the local sponsor.

Operations during fiscal year: New Work: Construction of ecosystem restoration.

28. SHORE PROTECTION WORK UNDER SPECIAL AUTHORIZATION

Name of Project	Cost to Sept. 30, 2003
Feasibility	
Seaside Heights, NJ	$6,116
Preliminary Restoration Plan	
Indian River Inlet, Sussex County, DE	$9,996

29. TOWNSEND INLET TO CAPE MAY INLET, NJ

Location: This project is located along the Atlantic Coast of New Jersey in Atlantic County, approximately 50 miles east of Philadelphia, Pennsylvania. The project area is located along the Atlantic Coast of New Jersey, extending approximately 15 miles from Townsends Inlet to Cape May Inlet, including the communities of Avalon, Stone Harbor, and North Wildwood.

Existing project: The recommended plan includes interim shoreline protection projects for Avalon, Stone Harbor and North Wildwood, New Jersey, and an environmental restoration project for Stone Harbor Point, as follows: (1) 4.3 miles of beachfill with a berm width of 150-foot at elevation 8.5 feet NGVD and dune height of +16-feet along with periodic nourishment for Avalon and Stone Harbor; The beachfill portion of the project consists of providing approximately 4 million cubic yards of initial beachfill, with subsequent periodic nourishment of 750,000 cubic yards every three years. (2) 2.2 miles of revetment construction along Townsends and Hereford Inlets frontages; (3) and ecosystem restoration of about 107 acres of natural barrier island habitat at Stone Harbor Point including beachfill, dune construction, and the planting of bayberry and red cedar rousting habitat. Estimated project cost is $476,000,000 of which $308,000,000 is Federal costs and $168,000,000 is non-Federal costs. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: The existing authority for this project is WRDA 1999, Section 101 (a) (26) that authorizes the construction of the Townsends Inlet to Cape May Inlet, NJ shore protection project. The Project Cooperation Agreement with the non-Federal sponsor was executed March 8, 2002.

Operations during fiscal year: New work: The beachfill portion of the project initiated construction. Construction of the major features of the project were

completed in June 2003. Work included coordination of real estate issues, environmental requirements, and the plans & specifications.

Flood Control:

30. BELTZVILLE LAKE, PA

Location: Damsite is on Pohopoco Creek about 4.5 miles upstream from its confluence with Lehigh River and 4 miles east of Lehighton, PA (See Geological Survey Quadrangle Map for Lehighton, PA-1960.)

Existing project: This is a multiple-purpose development project providing water supply, flood control, and recreation. Plan of improvement provides for an earth and rock fill dam 4,200 feet long rising 170 feet above creekbed; a spillway around the north end of dam; and gate control outlet works discharging through a conduit on rock along right abutment. The lake, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, has a reservoir capacity of 68,250 acre-feet at spillway crest level with 1,390 acre-feet of inactive storage, 39,830 acre-feet for water supply and recreation, and 27,030 acre-feet for flood control. The cost of project was $22,931,400 including $6,100,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project. The construction of the dam and appurtenances was completed in 1971. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Project was approved subject to certain requirements of cooperation by local interests as defined in approved House Document. Resolution of Delaware River Basin Commission providing assurances of repayment of water supply and pollution control costs was accepted June 7, 1965. A contract for repayment of water supply costs was signed October 16,1966.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

31. BLUE MARSH LAKE, PA

Location: Dam site is on Tulpehocken Creek about 1.5 miles upstream from its confluence with Plum Creek and about 6 miles northwest of Reading, PA (See Geological Survey Quadrangle Sheet, Bernville, PA)

Existing project: This is a multiple-purpose development project providing water supply, flood control, and recreation. Construction started in 1974 and was completed in 1980. The dam is 1,775 feet long and rises 98 feet above creekbed, with spillway about 1,500 feet south of dam, and gate-controlled outlet works discharging through a conduit on rock along right abutment. The lake, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, has a capacity of 50,010 acre-feet at spillway crest level, with 3,000 acre-feet of inactive storage, 14,620 acre-feet for water supply and recreation, and 32,390 acre-feet for flood control. (For details see H.Doc 533 87th Cong., 2nd Sess.) Costs of project $63,163,791. Existing project was authorized by 1962 Flood Control Act. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.) (H. Doc. 533, 87th Cong., 2d Sess., contains latest published maps.)

Local cooperation: Project was approved subject to certain requirements by local interests, as prescribed in House Document cited above. Delaware River Basin Commission on December 29, 1964, adopted a preliminary resolution providing for repayment of water supply costs.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

32. EMERGENCY BANK PROTECTION

Emergency Bank Protection Section 14, Public Law 79-526.

Name of Project	Cost to Sept. 30, 2003
Coordination	
Section 14 Coordination	$ 16,293
Planning and Design Analysis	
East Point , NJ	$117,792
Basket Brook, Hancock, NY	$ 41,489
Beaverkill, NY	$ 30,076
Branchville Streambank	$ 67,945

Stabilization Project, Sussex County	
Delaware Canal, Paunnacussing Creek, Bucks County	$ 39,364
Fort Mifflin, Phila., PA	$111,337
Lackawaxen, PA	$164,010
Manasquan River, Howell Twp, NJ	$ 45,160
Milford, NJ	$ 44,908

33. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to Section 205, Public Law 838, 80th Congress, as amended (Preauthorization).

Name of Project	Cost to Sept. 30, 2003
Coordination	
Section 205 Coordination	$45,679
Plans and Specifications	
Little Mill Creek, New Castle City, DE	$ 9,485
Preliminary Restoration Plan	
Stoney Run, Ridley Township, PA	$10,000
Feasibility	
Baeder Creek, Abington, PA	$14,812
Chester Creek, PA	$23,028
Little Mill Creek, Gravel Road	$29,366
Mill Creek, Neshaminy Basin	$ 9,972
Pennypack Creek Watershed, PA	$83,989
Perkiomen Creek Upper Providence, PA	$29,291
Port Jervis, NY	$ 1,095
Port Providence, Montgomery City, PA	$37,277
Tookany Creek, Church Road, PA	$ 9,995
Tookany Creek, Glenside Road, PA	$ 9,994

Emergency flood control activities-repair, flood fighting, and rescue work (Public Law 99, 84th Congress, and antecedent legislation).

Fiscal year costs were $250,665 for disaster preparedness.

34. FRANCIS E. WALTER DAM, PA

Location: Reservoir is in northeastern Pennsylvania on Lehigh River between White Haven and Stoddartsville. Dam is about 0.4 mile below mouth of Bear Creek, about 60 miles above confluence of Lehigh River and Delaware River at Easton, PA (See Geological Survey Quadrangle Sheet, Stoddartsville, PA).

Existing project: Plan of improvement authorized by 1946 Flood Control Act (H. Doc. 587, 79th Cong., 2d Sess.) provided for a single-purpose flood control reservoir. Modification of project, authorized by 1962 Flood Control Act (H. Doc.522, 87th Cong., 2d Sess.), provides for a multiple-purpose development for water supply and recreation in addition to present single-purpose flood control project. Plan of improvement requires altering spillway, increasing height of dam, constructing a new intake tower, extending outlet tunnel by addition of a concrete conduit, and constructing new dikes and raising existing dikes. Modified dam will rise 264 feet above riverbed and be 3,500 feet long. Reservoir modification, a unit of comprehensive plan for flood control and other purposes of Delaware River Basin, will have a reservoir capacity of 181,000 acre-feet spillway crest level with 3,000 acre-feet of inactive storage, 70,000 acre-feet for water supply and recreation and 108,000 acre-feet for flood control. Total cost is $186,000,000, estimated Federal cost of new work (October 1993) is $30,000,000 including $156,000,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project after use of this storage is initiated. Project as authorized under the 1946 Flood Control Act was completed June 1961. Settlement for lands was completed October 1962. The advance engineering and design for the modified project is completed. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: None required under 1946 Flood Control Act. Under 1962 Flood Control Act, project was approved subject to certain requirements by local interests, as defined in House Document 522 cited above. The Delaware River Basin Commission expressed its support by a resolution dated 23 April 1980 and reiterated its sponsorship for the modified project in August 1985, October 1985, and July 1988.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

35. GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA

Location: In Dyberry Creek valley in central part of Wayne County, PA, between borough of Honesdale and village of Tanners Falls. Dam is about 3 miles above confluence of Dyberry Creek and Lackawaxen River in Honesdale and 29 miles above confluence of Lackawaxen and Delaware Rivers. (See Geological Survey Quadrangle Sheet, Honesdale, PA.)

Existing project: A single-purpose flood control reservoir with a capacity of 24,500 acre-feet formed by an earth embankment, about 1,225 feet long at crest and rising 109 feet above creek bed. It also has a tunnel with intake structure and a chute-type spillway with a stilling basin in left abutment. Reservoir controls runoff from a drainage area of 65 square miles which is 91 percent of watershed of Dyberry Creek and 39 percent of Lackawaxen River watershed above Honesdale, PA. Construction of project was authorized by 1948 Flood Control Act (H.Doc. 113, 80th Cong., 1st Sess.). Project completed in June 1960. (See Table 3-B at end of Chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: Assurances of Compliance with requirements of local cooperation were accepted July 30, 1956. For details see page 251, Annual Report for 1962.

Operations during fiscal year: Maintenance: Normal operation and maintenance of the project continued.

36. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

To ascertain whether local interests were maintaining and operating completed projects as required, inspections were made as follows:

PROJECT INSPECTION	DATES
Allentown	July 2003
Bethlehem	October 2002
Chester Creek	October 2002
Darby Creek	April 2003
East Branch	October 2002
Fort Mifflin	November 2002
Palmerton	June 2003
Pennypack Creek, Hatboro, PA	April 2003
Perkiomen Creek Streambank Erosion	April 2003
Poquessing Creek	May 2003
Port Jervis, NY, Delaware River Ice Division	May 2003
Rancocas Creek	May 2003

Local interests are satisfactorily maintaining and operating projects in accordance with regulation. Costs during the period were $91,016.

37. INSPECTION OF NON-FEDERAL LEVEES

Inspection of non-federal levees were conducted at the following sites:

PROJECT INSPECTION	DATES
Bristol, PA	July 2003
East Stroudsburg	May 2003
Morrisville	October 2002
Stroudsburg	May 2003
Weissport	May 2003

38. MOLLY ANN'S BROOK, NJ

Location: Approximately 12 miles northwest of New York City, located in Haledon, Prospect Park and Paterson, New Jersey along Molly Ann's Brook from the mouth below Totowa Avenue in Paterson upstream to Church Street in Haledon.

Previous project: None.

Existing project: The recommended plan modified the channel a total length of 2.5 miles. The channel includes both trapezoidal channel sections and walled sections. Five bridges were replaced and two buildings were removed. Estimated cost of project (October 1997) is $ 38,800,000 of which $20,600,000 is Federal costs and $18,200,000 is required non-Federal costs. Costs are in accordance with Section 401(a) of the Water Resources Development Act (Public Law 99-662), dated November 17, 1986. (See Table 3-B at end of chapter for Acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing Project to Sept. 30, 2003.)

Local cooperation: Fully complied with. A Project Cooperation Agreement was executed on December 16, 1993. The State of New Jersey Department of Environmental Protection and Energy, the non-federal sponsor, provided a portion of their support through the

Intermodal Surface Transportation Efficiency Act of 1991.

Terminal facilities: None.

Operations during fiscal year: New work: Work included engineering and design, supervision and administration, and work deferred from and repairs due to Hurricane Floyd.

39. NATIONAL EMERGENCY PREPAREDNESS

The total fiscal year cost for this category amounted to $49,297.

40. PROMPTON LAKE, PA

Location: In Lackawaxen River Valley in central part of Wayne County, PA, between borough of Prompton and village of Aldenville. Dam is within corporate limits of Prompton, 4 miles upstream from Honesdale, PA, and approximately 30 miles above confluence of Lackawaxen

and Delaware River. (See Geological Survey Quadrangle Sheet, Honesdale, PA)

Existing project: Plan of improvement authorized by 1948 Flood Control Act (H. Doc. 113, 80th Cong., 1st Sess.) provides for a single-purpose flood control reservoir. Modification of project authorized by 1962 Flood Control Act (H. DOC 522, 87th Cong., 2nd Sess.) provides for a multiple-purpose development for water supply and recreation in addition to present single-purpose flood control project. Plan of improvement requires construction of control tower with gates and service bridge, placing an impervious blanket on valley walls and floor upstream from dam, widening spillway, and clearing land and relocating roads in reservoir. Dam, completed under 1948 Flood Control Act which will not be modified, is 1,230 feet long and rises 140 feet above riverbed. Existing spillway, cut into rock of right abutment, will be modified and present uncontrolled outlet works discharging into a concrete conduit along right bank, and will be provided with gates and a control tower. Reservoir modification, a unit of comprehensive plan for flood control and other purposes of Delaware River basin has a capacity of 52,000 acre-feet: 3,500 acre-feet for inactive storage, 28,200 acre-feet for water supply and recreation, and 20,300 acre-feet for flood control. Estimated Federal cost of new work (October 1994) is $3,510,000 including $54,990,000 required non-Federal reimbursement for costs allocated to water supply storage during life of project after use of this storage is initiated. Project as authorized under the 1948 Flood Control Act was completed in November 1960. (For details, see page 358, Annual Report for 1963.) Work accomplished under the 1962 Flood Control Act was preconstruction engineering and design. (See Table 3-B at end of Chapter for Acts authorizing existing project. See table 3-A at end of chapter for total cost for existing project to Sept. 30, 2003.)

Local cooperation: Project modification was approved subject to certain requirements by local interests, as defined in House Document 522 cited above. Assurances of compliance under Flood Control Act of 1948 have been met. Delaware River Basin Commission on March 18, 1966, gave their view that the need for water supply was not urgent at that time. However recent studies conducted by DRBC have determined that there is now a need for water supply. In August 1983, DRBC expressed their strong support for the project modification. Preconstruction engineering and design was initiated in 1966, suspended in 1968 and again suspended in and resumed in 1986.

Operations during fiscal year: Maintenance: Normal operation and maintenance at the project continued.

Environmental Restoration:

41. ENVIRONMENTAL IMPROVEMENT WORK UNDER SPECIAL AUTHORIZATION

Activities pursuant to Section 1135, Public Law 99-662.

Name of Project	Cost to Sept. 30, 2003
Coordination	
Coordination Account Funds	$125,881
Construction	
Bark Camp Run Restoration Project, PA	$326,318
Feasibility	

Dredged Hole #6 Barnegat Bay, NJ	$ 74,796
Pine Mount Creek, NJ	$ 69,470

Plans & Specifications

Restoration of Grass Dale, DE	$145,061

Planning & Design Analysis

Fairmont Dam, PA	$169,533
Farnham Park, Camden, NJ	$212,128
Lehigh River, Bat Hibernacula, PA	$ 14,211
Mordecai Island Restoration, NJ	$ 34,879
Pond Creek, NJ	$ 38,252

Preliminary Restoration Plans

Delaware City, DE	$ 10,000
Preliminary Restoration Plan	$ 1,969
Russell W. Peterson Wildlife	$ 9,411

42. SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT, PA

Location: The south central Pennsylvania area includes twenty-one counties defined by the authorizing legislation. The program area within the Philadelphia District consists of Pike, Monroe, and Lackawanna Counties.

Existing project: Section 313 of the Water Resources Development Act of 1992, as amended, established a pilot program for providing environmental assistance to non-Federal interests in south central Pennsylvania. Such assistance may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects, including projects for wastewater treatment and related facilities, water supply, storage treatment, distribution facilities, and surface water resource protection and development. The Federal share may be provided in the form of grants or reimbursements to the sponsor. FY 98 was the first year of funding for three project names in the Energy and Water Appropriations documents. Total project funds earmarked were $7,650,000 for work within Philadelphia District. The House Report (105-190) provides $10,000,000 in design and construction assistance under the Section 313 Program for projects in Lackawanna, Lycoming, Susquehanna, Wyoming, Pike and Monroe Counties in Pennsylvania. The Conference Report (105-271) specifies the funds among eight specific projects. Appropriations for those projects in the Philadelphia District are: Westfall Municipal Sewage Authority, Pike County; Jefferson Township, Lackawanna County; Township of Tobyhanna Sewer Authority, Monroe County. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

Local cooperation: The non-Federal sponsors are required to provide 25% of project costs including lands, easements, rights-of-way, and relocations and bear all costs of operation, maintenance, replacement, repair and rehabilitation of the project after construction.

Operations during fiscal year: New work: Continued design on Municipal Authority of the Westfall Township, PA and on Municipal Authority of the Borough of Milford, PA.

43. SOUTHEASTERN PENNSYLVANIA, PA

Location: Section 566 of the Water Resources Development Act (WRDA) of 1996 authorized a pilot program to provide for environmental assistance (design and construction) to non-Federal interests for publicly owned facilities in the five (5) county area surrounding the city of Philadelphia.

Previous project: None.

Existing project: Pilot program established for providing environmental assistance to non-Federal interests in southeastern Pennsylvania. Assistance under this section may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects in southeastern Pennsylvania, including projects for wastewater treatment and elated facilities, water supply and related facilities, and surface water resource protection and development. The four pilot programs are the East Central Incinerator, Wissinoming, Logan (Feltonville), and Delaware Canal. (See Table 3-B at end of chapter for acts authorizing existing project. See Table 3-A at end of chapter for total costs for existing project to Sept. 30, 2003.)

The East Central Incinerator property is located on Municipal North Piers 31 through 35 at 601 North

Columbus Boulevard (at the intersection of North Columbus Boulevard and Spring Garden Street), in Philadelphia, Philadelphia County, Pennsylvania. The Delaware River bounds the property on the north and east. The property is bounded to the south by the Delaware River and a parking lot. North Columbus Boulevard bounds the property on the west. The East Central Incinerator property consists of approximately seven (7) acres of land which currently accommodates the Incinerator Building, a Service Building (built on piles in 1968 at the north side of the former Municipal pier 34), an electric switch building, a scale house, two (2) small parking attendant buildings and a parking lot.

Wissinoming and Logan (Feltonville) sections of Philadelphia are located in north/northeast Philadelphia. These areas are experiencing severe subsidence of residential properties that were built many years ago on fill material placed over old watercourses. Breaks in the pipes provide an avenue for the fill material to be transported by ground water away from building foundations. In an effort to determine the cause and extent of the subsidence, a topographic map will be prepared and compared to historic maps to show how much fill was placed in the old watercourses. Borings will be taken in the fill to confirm topographic data and to determine the engineering characteristics of the fill material. Water and sewer lines will also be mapped to determine if such lines are present in areas where subsidence has occurred and to predict where subsidence may occur due to leaking water lines and deteriorating sewer lines.

Local cooperation: 1. East Central Incinerator: The non-Federal sponsors are required to provide 25% of the project costs to include lands, easements and rights of way and bear all costs of operation and maintenance of the project after construction. The non-Federal sponsors receive credit for any design work completed prior to the federal involvement. 2. Wissinoming, Logan (Feltonville), and Delaware Canal studies are 100% Federal expense. Design and construction cost sharing will be in accordance with policy guidance.

Terminal facilities: None.

Operations during fiscal year: New Work: East Central Incinerator – Completed the demolition contract work. Received a request for Equitable Adjustment which is under review.

Miscellaneous:

44. AQUATIC ECOSYSTEM RESTORATION WORK UNDER SPECIAL AUTHORIZATION

Activities pursuant to Section 206, Public Law 104-303.

Name of Project	Cost to Sept. 30, 2003
Coordination	
Section 206 Coordination Account Funds	$ 29,738
Feasibility	
Assunpink Creek, NJ	$238,955
Planning & Design Analysis	
Batso Fishladder, NJ	$ 16,492
Cuddebackville, NY	$706,619
Lake Ontelauntee, PA	$ 27,658
Rancocas Creek, Fishways, NJ	$ 42,050
Southampton Creek, Environmental Restoration	$ 25,578
Preliminary Restoration Plan	
Chrome Run, Middletown, PA	$ 9,630
Darby Creek, Darby Borough, PA	$ 10,000
Grover's Mill Pond	$ 10,037
Mill Creek Restoration, Morea, Schuylkill	$ 10,000
Newton Creek, NJ	$ 9,015
Preliminary Restoration Funds	$ 81,377
Wissahickon Creek at Henry Lane, PA	$ 10,000

General Investigations:

45. COLLECTION AND STUDY OF BASIC DATA

Cost and expenditures during the period for flood plain information studies were $154,657.

46. PRECONSTRUCTION ENGINEERING AND DESIGN

Cost and expenditures during the period totaled

$436,716.

47. SURVEYS

Cost for the period was $37 for navigation studies, $35,639 for flood damage protection, $230,734 for shoreline protection studies, $155,253 for ecosystem restoration studies, $225,372 for watershed/comprehensive studies, and $107,515 for special studies: a total of $754,550.

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
1.	Barnegat Inlet, NJ	New Work					
	(Regular	Approp.	—	—	—	—	31,083,849
	Funds)	Cost	—	—	—	—	30,994,363
		Maint.					
		Approp.	2,020,567	1,717,338	2,067,227	1,588,331	29,450,896
		Cost	2,044,553	1,710,229	2,077,314	1,470,261	29,321,381
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	13,917,000
		Cost	—	—	—	—	13,793,140
2.	Cold Spring	New Work					
	Inlet, NJ	Approp.	—	—	—	—	879,275
	(Regular	Cost	—	—	—	—	879,275
	Funds)	Maint					
		Approp.	482,569	394,335	392,898	423,065	8,990,823
		Cost	482,569	394,335	392,898	425,965	8,990,821
		Rehab.					
		Approp.	—	—	—	—	1,134,346
		Cost	—	—	—	—	1,134,346
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	150,000[8]
		Cost	—	—	—	—	150,000[8]
3.	Delaware River	New Work					
	between Phila-	Approp.	—	—	—	—	72,147,800[2]
	delphia, PA and	Cost	—	—	—	—	72,147,800[2]
	Trenton, NJ	Maint					
	(Regular	Approp.	2,622,824	2,999,562	4,408,000	2,510,589	66,209,012[3]
	Funds)	Cost	2,635,021	2,997,772	4,357,023	2,562,298	66,204,966[3]
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	565,000
		Cost	—	—	—	—	565,000
4.	Delaware River	New Work					
	Mainstem Channel	Approp.	1,176,000	1,654,000	1,621,000	1,250,000	5,547,000
	& Deepening	Cost	2,254,649	1,641,677	1,648,110	1,285,662	5,490,826
	(Regular Funds)						
5.	Delaware River,	New Work					
	PA, NJ, and DE	Approp.	—	—	—	—	57,879,872[4]
	Philadelphia	Cost	—	—	—	—	57,879,872[4]
	to the Sea	Maint.					
	(Regular	Approp.	16,847,568	14,419,605	19,841,007	23,432,000	585,479,790[17]
	Funds)	Cost	16,889,458	14,375,369	19,639,016	23,396,248	584,835,527[17]
		Rehab.					
		Approp.	—	—	—	—	508,324
		Cost	—	—	—	—	508,324
6.	Inland Waterway	New Work					

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
	from Delaware River	Approp.	—	—	—	—	132,535,591[6]
	to Chesapeake Bay,	Cost	—	—	—	—	132,532,598[6]
	DE and MD	Maint.					
	(Regular Funds)	Approp.	14,270,832	22,061,744	17,056,193	10,934,000	383,104,994[7]
		Cost	14,348,534	22,032,500	15,856,843	11,587,418	382,382,521[7]
		Rehab.					
		Approp.	—	—	—	—	17,356,292
		Cost	—	—	—	—	17,356,290
7.	Inland Waterway,	New Work					
	Rehoboth Bay to	Approp.	—	—	—	—	561,514
	Delaware Bay, DE	Cost	—	—	—	—	561,514
	(Regular	Maint.					
	Funds)	Approp.	58,000	415,255	1,018,536	42,062	6,332,729
		Cost	58,396	415,196	1,016,149	42,325	6,330,599
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	60,000
		Cost	—	—	—	—	60,000
8.	Manasquan	New Work					
	River, NJ	Approp.	—	—	—	—	8,008,278[21,22]
	(Regular	Cost	—	—	—	—	8,008,278[21,22]
	Funds)	Maint.					
		Approp.	—	190,000	80,000	84,000	5,629,229[23]
		Cost	—	190,000	80,000	84,000	5,627,834[23]
9.	Mispillion River, DE	New Work					
	(Regular	Approp.	—	—	—	—	738,839[11]
	Funds)	Cost	—	—	—	—	738,839[11]
		Maint.					
		Approp.	—	—	303,000	47,339	5,228,985[16]
		Cost	—	—	298,385	52,260	5,228,096[16]
10.	Murderkill River, DE	New Work					
	(Regular	Approp.	—	—	—	—	37,630
	Funds)	Cost	—	—	—	—	37,630
		Maint.					
		Approp.	358,564	—	311,000	2,525	3,406,095
		Cost	356,488	—	304,407	9,118	3,404,050
12.	New Jersey	New Work					
	Intracoastal	Approp.	—	—	—	—	71,549[9]
	Waterway	Cost	—	—	—	—	71,549[9]
	(Regular	Maint.					
	Funds)	Approp.	2,292,165	2,057,232	1,928,000	2,541,712	60,886,276[10]
		Cost	2,293,803	2,062,528	1,920,740	2,538,078	60,862,999[10]
		Rehab.					

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
		Approp.	—	—	—	—	1,196,581
		Cost	—	—	—	—	1,196,581
	(Contributed	New Work					
	Funds)	Approp.	—	—	—	—	99,000
		Cost	—	—	—	—	99,000
14.	Regional Sediment	Maint.					
	Management Pilot	Approp.	—	93,400	95,880	—	189,280
	Program	Cost	—	78,345	46,436	57,391	182,172
15.	Schuylkill River, PA	New Work					
	(Regular Funds)	Approp.	—	—	—	—	3,334,007[1]
		Cost	—	—	—	—	3,334,007[1]
		Maint.					
		Approp.	1,514,421	1,406,409	—	926,133	39,801,256
		Cost	1,544,325	1,381,217	—	926,133	39,765,600
16.	Wilmington	New Work					
	Harbor, DE	Approp.	—	—	—	—	1,954,725[12,5]
	(Regular	Cost	—	—	—	—	1,954,725[12,5]
	Funds)	Maint.					
		Approp.	7,107,246	6,432,612	4,225,000	5,705,000	117,496,583
		Cost	7,106,138	6,437,921	4,196,449	5,719,836	117,460,624
	(Contributed	NewWork					
	Funds)	Approp.	—	—	—	—	160,000[15]
		Cost	100,000	—	—	—	160,000[15]
17.	Brigantine Inlet to	New Work					
	Great Egg Harbor Inlet,	Approp.	371,000	290,000	280,000	300,000	1,241,000
	NJ (Abecon Island, NJ)	Cost	201,603	385,688	312,642	230,915	1,130,848
	(Regular Funds)	New Work					
	(Contributed	Approp.	—	—	—	105,000	105,000
	Funds)	Cost	—	—	—	—	0
18.	Brigantine Inlet to	New Work					
	Great Egg Harbor Inlet,	Approp.	—	—	—	150,000	150,000
	NJ (Brigantine Island, NJ)	Cost	—	—	—	106,363	106,363
	(Regular Funds)						
19.	Cape May Inlet	New Work					
	to Lower Twp., NJ	Approp.	1,458,000	100,000	2,000,000	82,000	20,882,176
	(Regular	Cost	1,458,028	99,996	340,002	1,730,775	20,469,439
	Funds)	New Work					
	(Contributed	Approp.	225,000	—	500,000	—	3,749,558
	Funds)	Cost	166,102	69,084	166,102	131,810	3,506,027
20.	Delaware Bay	New Work					
	Coastline, Port	Approp.	—	—	—	100,000	100,000
	Mahon, DE & NJ	Cost	—	—	—	77,640	77,640

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
	(Regular Funds)						
21.	Delaware Bay Coastline, Reeds Beach to Pierces Point, DE & NJ (Regular Funds)	New Work Approp.	—	—	—	100,000	100,000
		Cost	—	—	—	85,189	85,189
22.	Delaware Bay Coastline, Roosevelt Inlet/Lewes Beach, DE (Regular Funds)	New Work Approp.	—	—	100,000	284,000	384,000
		Cost	—	—	99,041	46,244	145,285
	(Contributed Funds)	New Work Approp.	—	—	—	899,797	899,797
		Cost	—	—	—	—	0
23.	Delaware Coast Cape Henlopen to Fenwick Island, DE (Rehoboth Beach to Dewey Beach, DE) (Regular Funds)	New Work Approp.	273,000	214,000	(150,000)	36,000	373,000
		Cost	76,910	109,142	111,864	74,837	372,753
24.	Delaware Coast Cape Henlopen to Fenwick Island, DE (Fenwick Island, DE) (Regular Funds)	New Work Approp.	—	—	—	314,000	314,000
		Cost	—	—	—	191,237	191,237
	(Contributed Funds)	New Work Approp	—	—	—	104,000	104,000
		Cost	—	—	—	0	0
25.	Delaware Coast Protection, DE (Regular Funds)	New Work Approp.	222,000	254,000	353,000	292,000	6,427,953[20]
		Cost	222,041	253,988	343,665	228,698	5,934,305[20]
		Maint. Approp.	—	—	—	—	215,350
		Cost	—	—	—	—	215,350
	(Contributed Funds)	New Work Approp.	—	—	—	—	1,268,671[18]
		Cost	—	—	—	—	1,259,002[18]
26.	Great Egg Harbor Inlet & Peck Beach, NJ (Regular Funds)	New Work Approp.	359,000	5,100,000	250,000	457,000	37,337,000
		Cost	356,563	5,099,795	246,771	431,731	37,295,844
	(Contributed Funds)	New Work Approp.	—	4,885,767	286,790	4,500,000	28,379,610
		Cost	78,791	4,476,158	78,791	326,280	23,577,255
27.	Lower Cape May Meadows, NJ	New Work Approp.	—	—	65,000	275,000	340,000

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
	(Regular Funds)	Cost	—	—	61,967	143,070	205,037
		New Work Approp.	—	—	—	500,000	500,000
	(Contributed Funds)	Cost	—	—	—	—	0
29.	Townsend Inlet to Cape May Inlet, NJ	New Work Approp.	—	352,000	3,607,000	12,093,000	16,052,000
		Cost	—	209,253	3,255,020	12,566,501	16,030,874
	(Regular Funds)	New Work Approp.	—	—	9,239,000	7,895,000	17,134,000
	(Contributed Funds)	Cost	—	—	51,615	5,448,088	5,499,703
30.	Beltzville Lake, PA	New Work Approp.	—	—	—	—	22,931,831
	(Regular Funds)	Cost	—	—	—	—	22,931,831
		Maint. Approp.	937,320	934,856	1,305,991	1,048,000	18,891,756
		Cost	948,030	932,644	974,918	1,027,774	18,503,178
31.	Blue Marsh Lake, PA	New Work Approp.	—	—	—	—	63,180,300
	(Regular Funds)	Cost	—	—	—	—	63,180,299
		Maint. Approp.	2,224,752	2,173,419	2,366,701	2,572,000	39,802,675
		Cost	2,260,124	2,128,660	2,320,347	2,508,390	39,607,506
34.	Francis E. Walter Dam, PA	New Work Approp.	—	—	—	—	12,449,682[13]
	(Regular Funds)	Cost	—	—	—	—	12,437,323[13]
		Maint. Approp.	865,773	613,450	1,155,907	1,279,000	18,926,079
		Cost	875,544	603,928	1,068,462	1,245,999	18,791,960
35.	General Edgar Jadwin Dam and Reservoir, PA	New Work Approp.	—	—	—	—	4,073,105
		Cost	—	—	—	—	4,073,105
	(Regular Funds)	Maint. Approp.	208,679	256,772	248,960	268,000	5,177,775
		Cost	208,608	257,241	248,934	263,370	5,140,893
38.	Molly Ann's Brook, NJ	New Work Approp.	300,000	300,000	16,000	—	21,829,000
	(Regular Funds)	Cost	411,959	9,443	303,617	(32,384)	21,768,487
	(Contributed Funds)	New Work Approp.	600,000	1,141,000	200,000	50,000	7,691,000[19]
		Cost	1,275,000	1,427,456	246,041	279,818	7,736,889[19]
40.	Prompton Lake	New Work Approp.	—	—	—	—	4,609,483[14]
	(Regular Funds)	Cost	—	—	—	—	4,609,483[14]
		Maint.					

TABLE 3-A COST AND FINANCIAL STATEMENT

See Section in Text	Projects	Funding	FY00	FY01	FY02	FY03	SEPT. 30, 2003
		Approp.	948,608	664,354	484,049	473,000	12,916,652
		Cost	952,782	657,673	481,453	469,891	12,899,783
42.	South Central, PA Environmental Improvement, PA (Regular Funds)	New Work Approp.	—	2,503,449	201	—	10,353,650
		Cost	1,068,472	117,347	1,392,094	22,184	3,894,496
43.	Southeastern Pennsylvania, PA (Regular Funds)	New Work Approp.	2,516,000	126,000	(372,000)	245,000	3,556,000
		Cost	386,215	197,663	2,667,066	93,034	3,393,622
	(Contributed Funds)	New Work Approp.	—	—	1,150,000	—	1,150,000
		Cost	—	—	779,670	126,367	906,037

* Total adjusted to correct discrepancies in prior years.

1. Includes $525,000 for previous projects.
2. Includes $2,489,173 for new work for previous projects, $105,000 for preauthorization studies and minus $142,015 adjustment new work toDelaware River, Philadelphia to Sea project from this project under 1954 modification.
3. Includes $552,720 for maintenance for previous projects, and $685,000 Jobs Bill Funds.
4. Excludes $12,976,054 for new work for previous projects and $142,015 adjustment from Delaware River, Philadelphia to Trenton, NJ under 1954 modification.
5. Excludes $412,400 spent for Continuing Authority project.
6. Includes $10,709,755 for new work for previous projects.
7. Includes $6,903,748 for maintenance for previous projects, and $9,500 Job Bill Funds.
8. Includes $50,000 Navy Department Funds & $100,00 Contributed Funds.
9. Excludes $1,824,940 Navy Department Funds.
10. Excludes $286,953 Navy Department Funds expended for maintenance.
11. Includes $148,798 for new work on previous projects.
12. Includes $402,121 for new work for previous project, and $206,177 emergency relief funds.
13. Includes $40,000 appropriated and $61,551 expended under Code 710 Recreation Facilities.
14. Includes $63,000 appropriated and $61,551 expended under Code 710 Recreation Facilities, excluded $23,600.
15. Excludes $213,336 spent on Continuing Authority project.
16. Includes $61,172 for maintenance on previous projects.
17. Includes $1,025,409 for maintenance of previous projects, and $8,000 Jobs Bill funds.
18. Excludes $85,000 cash and $130,000 services furnished during preconstruction planning.
19. Includes $112,000 for work done for the State of New Jersey.
20. Includes $704,000 AE&D.
21. Includes $39,000 for new work for previous projects.
22. Includes $555,809 for previous projects.
23. Includes $2,054 for maintenance for previous projects.

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	BARNEGAT INLET, NJ (See Section 1 of Text)	
Aug. 30, 1935	An 8-foot depth through inlet to Oyster Creek Channel across inner bar, 10-foot depth through outer bar and for jetties.	Rivers and Harbors Committee Doc. 19, 73rd Cong., 2nd sess.[1]
Aug. 26, 1937	A channel of suitable hydraulic characteristics from gorge to Oyster Creek Channel, and thence to deep water in bay.	Rivers and Harbors Committee Doc.85, 74th Cong., 2nd sess.[1]
Jul. 24, 1946	Maintenance dredging of channel to connect main inlet channel with Barnegat City Harbor.	H. Doc. 358, 79th Cong., 2nd sess.
Jul. 2, 1985	Construction of a parallel, 4270 foot rubble mound south jetty and dredging a channel 10 feet deep, 300 feet wide, and 11,300 feet long.	H. Doc. 236, 99th Cong., 2nd sess.
	COLD SPRING INLET, NJ (See Section 2 of Text)	
Mar. 2, 1907	An inlet channel 25 feet deep and jetties.	H. Doc. 388, 59th Cong., 2nd sess.
Mar. 2, 1945	A 20-foot channel to deep water in harbor	H. Doc. 262, 77th Cong., 1st sess.
	DELAWARE RIVER BETWEEN PHILADELPHIA, PA AND TRENTON, NJ (See Section 3 of Text)	
Jul. 3, 1930	A channel 28 feet deep, 300 feet wide between Allegheny Ave., Philadelphia, PA and Delair Bridge	Rivers and Harbors Committee Doc. 3, 71st Cong., 1st sess.
Aug. 30, 1935	Channel 25 feet deep from Delair Bridge to Trenton, NJ, and maintenance of 12-foot channel from upper end of 25-foot project to Penn Central R.R. Bridge at Ferry St., Trenton.	Rivers and Harbors Committee Doc. 11, 73rd Cong., 1st sess.
Aug. 30, 1935[2]	Auxiliary channel, 20 feet deep east of Burlington Island.	Rivers and Harbors Committee Doc. 66, 74th Cong., 1st sess[1]
Aug. 26, 1937	A cross channel 8 feet deep, opposite Delanco, NJ	Rivers and Harbors Committee Doc. 90, 74th Cong., 2nd sess.
Jul. 24, 1946	Anchorage at mouth of Biles Creek	H. Doc. 679, 79th Cong., 2nd sess.
Sept. 3, 1954	A channel 40 feet deep and 400 feet wide between Allegheny Ave., Philadelphia, PA, and upstream end of Newbold Island, thence 35 feet deep to Trenton Marine Terminal and turning basin to 800 feet wide. Relocate channel at railroad bridge at Delair and suitably reconstruct bridge. Construct necessary bank protection works; and eliminate authorized anchorage near mouth of Biles Creek, PA.	H. Doc. 358, 83d Cong., 2nd sess.[1]
	DELAWARE RIVER MAIN CHANNEL &	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	DEEPENING, NJ, PA, & DE (See Section 4 of Text)	
October 1992	The 45-foot deep project was authorized for construction.	WRDA 1992 P.L. 102-580 Section 101 (6)
	Allows for certain credits to the non-Federal sponsor and the payment of disposal fees, and the development of a disposal area management plan.	WRDA 1999 P.L. 106-53, Section 308
	DELAWARE RIVER, PA, NJ, AND DE, PHILADELPHIA TO THE SEA (See Section 5 of Text)	
Jun. 25, 1910	Channel 35 feet deep from Allegheny Ave., Philadelphia, PA to Delaware Bay.	Doc. 733, 61st Cong., 2nd sess.
Jul. 3, 1930	Anchorages 35 feet deep at Port Richmond and Mantua Creek, a 30 foot anchorage at Gloucester, NJ and extend 1,000 foot channel in Philadelphia Harbor to Horseshoe Bend.	H. Doc. 304, 71st Cong., 2nd sess.[1]
Aug. 30, 1935[2]	An anchorage 35 feet deep at Marcus Hook, PA	Rivers and Harbors Committee Doc. 5, 73rd Cong., 1st sess.
Jun. 20, 1938[3]	A channel 37 feet deep from Philadelphia – Camden Bridge to Navy Yard, thence 40 feet deep to deep water in Delaware Bay.	S. Doc. 159, 75th Cong., 3rd sess.[1]
Mar. 2, 1945[4]	A 37-foot depth channel from Allegheny Ave., Philadelphia, PA to Philadelphia-Camden Bridge	H. Doc. 580, 76th Cong., 1st sess.[1]
Mar. 2, 1945[4]	A 37-foot depth in an enlargement of anchorage near Mantua Creek and Marcus Hook.	H. Doc. 340, 77th Cong., 1st sess.[1]
Mar. 2, 1945[4]	Maintain enlarged channel opposite Philadelphia Navy Yard.	Specified in Act. H. Doc. 358, 83rd Cong., 2nd sess.[1]
Sept. 3, 1954	A channel from Allegheny Ave., to Naval Base 40 feet deep, 400 feet wide along west side of channel through Philadelphia Harbor and 500 feet wide through Horseshoe Bend.	
Jul. 3, 1958	Anchorages at Reedy Point, Deepwater Point, Marcus Hook and Mantua Creek 40 feet deep and 2,300 feet wide with mean lengths of 8,000, 5,200,13,650 and 11,500 feet respectively.	H. Doc. 185, 85th Cong., 1st sess. 74th Cong., 1st sess.[1]
	INLAND WATERWAY FROM DELAWARE RIVER TO CHESAPEAKE BAY, DE & MD (See Section 6 of Text)	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Aug. 30, 1935	A sea level channel 27 feet deep, 250 feet wide from Delaware River to Elk River and 400 feet wide down Elk River and Chesapeake Bay to deep water at or near Pooles Island; alter existing bridges over canal; enlarge	H. Doc. 201, 72nd Cong., 1st sess. and Rivers and Harbors
	Delaware City Branch Channel to 8 feet deep and 50 feet wide, with a basin same depth and revetment of both banks east of Fifth Street; enlarge anchorage and mooring basin in Back Creek to 400 feet wide, 1,000 feet long and 12 feet deep; extend jetties at Reedy Point; and construct bulkheads.	Committee Docs. 18 and 24, 736 Cong., 2nd sess.[1]
Aug. 7, 1939	Construct a 4-lane high-level fixed highway bridge at or near St. Georges.	Public Law 310, 76th Cong., 1st sess.
Sept. 3, 1954	A channel 35 feet deep and 450 feet wide from Delaware River through Elk River and Chesapeake Bay.	S. Doc. 123, 83rd Cong., 2nd sess.[1]
Aug. 30, 1935	For an 8-foot depth and width increased to 150 feet in Delaware Bay.	H. Doc. 275, 73rd Cong., 2nd sess.[1].
	INLAND WATERWAY, REHOBOTH BAY TO DELAWARE BAY, DE (See Section 7 of text)	
Jul. 25, 1912	For a 6-foot depth canal to connect Rehoboth Bay and Delaware Bay.	H. Doc. 823, 60th Cong., 1st sess. and Rivers and Harbors Committee Doc. 51, 61st Cong., 3rd sess.
Aug. 30, 1935	For a 6-foot depth entrance near Lewes, for jetties, for widening the canal from Broadkill River to Lewes and basin.	Rivers and Harbors Committee Doc. 56, 75th Cong., 2nd sess.[1]
Mar. 2, 1945	For a 10-foot depth from Delaware Bay to Lewes and in basin, and for extending jetties. [5]	H. Doc. 344, 77th Cong., 1st sess.[1]
	MANAQUAN RIVER, NJ (See Section 8 of Text)	
Jul. 3, 1930	Channel 8 feet deep and provision of works designed to secure channel.	H. Doc. 482, 70th Cong., 2nd sess.
Aug. 30, 1935	Widening channel on northerly side.	Senate Committee Doc., 74th Cong., 1st sess.
Mar. 2, 1945	Deepening channel to 12 and 14 feet, 10 and 12 foot anchorages. [6]	H. Doc. 356, 77th Cong., 1st sess.
	MISPILLION RIVER, DE (See Section 9 of Text)	
Mar. 2, 1912	A 6-foot depth and extention of south.	H. Doc. 678, 62nd Cong., 2nd sess. [1]

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
Aug. 26, 1937	Extention of north jetty.	Rivers and Harbor Comm., Doc. 83
Sep. 3, 1954	A channel 9 feet deep, 80 feet wide from like depth in Delaware Bay to the landward end of the jetties and thence 60 feet wide to Milford, including 3 cutoffs, with a turning basin at Milford.	S. Doc. 229, 81st Cong., 2nd sess. [1]
	MURDERKILL RIVER, DE (See Section 10 of Text)	
Jul. 13, 1982	A channel 7 feet deep at low water from Frederica to the 7 foot curve in Delaware Bay, 80 feet wide down to the mouth, and 150 feet wide at bottom and 250 feet wide at top from the mouth to the 7 foot curve in the bay. Embankment of dredged material on each side to a height of at least 2 feet above high spring tides.	H. Ex. Doc. 21, 52nd Cong., 1st sess. (See page 981 in Annual Report of 1892.)
	NEW JERSEY INTRACOASTAL WATERWAY (See Section 12 of Text)	
Jul. 1, 1945	A channel 12 feet deep at mean low water and generally 100 feet wide, extending from the Atlantic Ocean at Manasquan Inlet, NJ to Delaware Bay above Cape May, NJ. Construction of a canal of similar dimensions from Cape May Harbor to Delaware Bay via the New England Creek basin with adequate jetties at the Delaware Bay entrance.	H. Doc. 133, 76th Cong., 1st Sess. Rivers and Harbors Committee Doc. 525 79th Cong., 2nd sess.
Nov. 17, 1986	To increase the depth of the 2,000 foot reach of the waterway in Cape May County to 15 feet.	WRDA of 1986
	REGIONAL SEDIMENT MANAGEMENT PILOT PROGRAM (See Section 14 of Text)	
	To remedy of the sediment excess/deficit problems on the updrift/downdrift shorelines adjacent to Cape May Inlet.	Energy and Water Development Approp. Act of 2002, P.L. 107-66
	SCHUYLKILL RIVER, PA (See Section 15 of Text)	
Aug. 8, 1917	Depths of 35 feet from mouth to Girard Point thence 30 feet, 26, and 22 feet to University Avenue Bridge, Philadelphia.	H. Doc. 1270, 64th Cong., 1st sess.
Jul. 3, 1930	A depth of 30 feet instead of 35 feet between the mouth and the conditional restoration and maintenance of the channel below Passyunk Ave., channel dimensions between Passyunk Ave., and[1] by the United States.	Rivers and Harbors Committee Doc. 40, 71st Cong., 2nd sess[1]
Jul. 24, 1946	A depth of 33 feet from the channel in Delaware River to Passyunk Ave., restoration of the project channel dimensions between Passyunk Ave. and University Ave., and full maintenance of the entire project.	H. Doc. 699, 79th Cong., 2nd sess[1]

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	WILMINGTON HARBOR, DE (See Section 16 of Text)	
Jun. 3,1896	Depths of 21, 10 and 7 feet and jetties.	H. Doc. 66, 54th Cong., 1st sess. Annual Report, 1897 p. 12501
Jul. 25,1912	Purchase or construct a dredge and auxiliaries including a wharf and depot, and maintenance of project.	H. Doc. 359, 62nd Cong., 2nd sess.
Sept. 22, 1922	Entrance channel and basin with 25-foot depth and construction by local interests of new south jetty.	H. Doc. 114, 67th Cong., 1st sess. and S. Committee Print, 68th Cong., 1st sess.
Jul. 3, 1930	A 30-foot depth between Delaware River and Lobdell Canal and modification or removal of a portion of north jetty.	Rivers and Harbors Committee Doc. 20, 71st Cong., 2nd sess.
Aug. 30, 1935[7]	Completion of new south jetty by the United States subject to provision that city of Wilmington reimburse the United States for cost, without interest, of any part of structure that may subsequently be occupied and utilized for city activities.	Rivers and Harbors Committee Doc. 32, 73rd Cong., 2nd sess.
Oct. 17, 1940	Permit temporary occupancy by city of Wilmington of any part of south jetty for city activities under revocable license, provided occupied portion of jetty is properly maintained without expense to the United States.	H. Doc. 658, 76th Cong., 3rd sess.
Jul. 14, 1960	A 35-foot depth between Delaware River ship channel and Lobdell Canal including turning basin of same depth, opposite Wilmington Marine Terminal, 200 feet wide, 2,900 feet long on north side of channel, and 2,000 feet long on north side of basin.	H. Doc. 88, 86th Cong., 2nd sess.
	BRIGANTINE INLET TO GREAT EGG HARBOR INLET, NJ (ABSECON ISLAND, NJ) (See Section 17 of Text)	
Oct. 12, 1996	Consists of providing storm damage reduction and shoreline protection.	Section 101 (b) (13) of WRDA 1996
	BRIGANTINE INLET TO GREAT EGG HARBOR INLET, NJ (BRIGANTINE ISLAND, NJ) (See Section 18 of Text)	
Aug. 17, 1999	Provides for hurricane, storm damage reduction and shore protection.	Section 101 (b) (12) of WRDA 1999
	CAPE MAY INLET TO LOWER TOWNSHIP, NJ (See Section 19 of Text)	

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	Consists of beach fill; dune fill; new groins; maintenance of existing groins; rehabilitation of an existing seawall; and a breakwater with weir and deposition basin at Cape May Inlet.	Rivers & Harbors Act of 1968
Nov. 17, 1986	Project may be constructed separately or in combination with any other feature of the project.	WRDA of 1986
	DELAWARE BAY COASTLINE, PORT MAHON, NJ (See Section 20 of Text)	
Aug. 17, 1999	Provides for ecosystem restoration.	Section 101 (a) (12) of WRDA 1999
	DELAWARE BAY COASTLINE, REEDS BEACH TO PIERCES POINT, DE & NJ (See Section 21 of Text)	
Aug. 17, 1999	Provides for shore protection and ecosystem restoration.	Section 101 (b) (6) of WRDA 1999
	DELAWARE BAY COASTLINE, ROOSEVELT INLET/LEWES BEACH, DE (See Section 22 of Text)	
Aug. 17, 1999	Provides for navigation mitigation, hurricane, and storm damage reduction.	Section 101 (a) (13) of WRDA 1999
	DELAWARE COAST CAPE HENLOPEN TO FENWICK ISLAND, DE (REHOBOTH BEACH TO DEWEY BEACH, DE) (See Section 23 of Text)	
Oct. 12, 1996	Provides for storm damage reduction, shoreline protection, and periodic nourishment over the 50-year life of the project.	Section 101 (b) (6) of WRDA 1996
Dec. 11, 2000	Project is modified to authorize increased project costs.	Section 307 of WRDA 2000
	DELAWARE COAST CAPE HENLOPEN TO FENWICK ISLAND, DE (FENWICK ISLAND, DE) (See Section 24 of Text)	
	Provides for hurricane and storm damage reduction.	Section 101 (b) (11) of WRDA 2000
	DELAWARE COAST PROTECTION, DE (See Section 25 of Text)	
	Provides for Federal participation in the cost of restoration and subsequent	H. Doc. 90, 90th

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	periodic nourishment, not to exceed 10 years, of the shore from Rehoboth Beach to Indian River Inlet.	Cong., 2nd sess.
Nov. 17, 1986	Project is modified to authorize the construction of sand bypass facilities and stone revetment erosion control measures at Indian River Inlet, DE.[8]	WRDA of 1986 Sec. 869
	GREAT EGG HARBOR INLET & PECK BEACH, NJ (See Section 26 of Text)	
Nov. 17, 1986	Project may be constructed separately or in combination with any other feature of the project. Consists of providing initial beachfill, with subsequent periodic nourishment, with a minimum berm width of 100 feet at an elevation of 8 feet above mean low water.	River and Harbor Act of 1965. WRDA of 1986.
	LOWER CAPE MAY MEADOWS, NJ (See Section 27 of Text)	
Aug. 17, 1999	Provides for navigation mitigation, ecosystem restoration, shore protection, and hurricane and storm damage reduction.	Section 101 (a) (25) WRDA of 1999
	TOWNSEND INLET TO CAPE MAY INLET, NJ (See Section 29 of Text)	
Aug. 17, 1999	Provides for hurricane and storm damage reduction, shore protection, and ecosystem restoration.	Section 101 (a) (26) WRDA of 1999
	BELTZVILLE LAKE, PA (See Section 30 of Text)	
	Provides for multiple-purpose development for water supply flood control and recreation.	H. Doc. 522, 87th Cong., 2nd sess.
	BLUE MARSH LAKE, PA (See Section 31 of Text)	
	Provides for multiple purpose development for water supply, flood control, and recreation. Site is located on Tulpehocken Creek about 1 ½ miles up-stream from its confluence with Plum Creek and about six miles northwest of Reading, PA.	H. Doc. 522, 87th Cong., 2nd sess.
	FRANCIS E. WALTER DAM, PA (See Section 34 of Text)	
	Provided for a single-purpose flood control reservoir.	H. Doc. 587, 79th Cong., 2nd sess.
	Provides for a multiple-purpose development for water supply and recreation.	H. Doc 522, 87th Cong., 2nd sess.
	GENERAL EDGAR JADWIN DAM AND RESERVOIR, PA (See Section 35 of Text)	
	A single-purpose flood control reservoir with a capacity of 24,500 acre-feet formed by an earth embankment.	H. Doc 113, 80th Cong., 1st sess.
	MOLLY ANN'S BROOK, NJ (See Section 38 of Text)	
Nov. 17, 1986	Modify Channel with a total length of 2.5 miles miles. Channel will include both trapezoidal channel sections and walled sections. Five bridges will be replaced and one building will removed.	WRDA of 1986

TABLE 3-B AUTHORIZING LEGISLATION

Acts	Work Authorized	Documents
	PROMPTON LAKE, PA (See Section 40 of Text)	
	Provides for a single-purpose flood control reservoir.	H. Doc. 113, 80th Cong., 1st sess.
	Provides for multiple-purpose development for water supply, and recreation in addition to present single-purpose flood control project.	H. Doc. 522, 87th Cong., 2nd sess.
	SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT, PA (See Section 42 of Text)	
	Pilot program providing environmental assistance to non-Federal Interests in South Central Pennsylvania.	Section 313, WRDA of 1992
	Provides $10 million in design and construction assistance under the Section 313 progam.	H. Report 105-190
	Specifies the funds among eight specific projects.	Conference Report 105-271
	SOUTHEASTERN PENNSYLVANIA, PA (See Section 43 of Text)	
	Pilot program providing for environmental assistance (design and construction) to non-Federal interests for publicly owned facilities in the five (5) county area surrounding the City of Philadelphia.	Section 566, WRDA of 1996
	"Brownfields" initiative to investigate to spur the revitalization of these properties and return them to productive use.	Section 104 (d)(1) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980

1. Contains latest published maps.
2. Also Public Works Administration September 6, 1933, and Emergency Relief Administration, May 28, 1935.
3. Channel 37 feet deep and 600 feet wide from Naval Base to Philadelphia-Camden Bridge, deferred for restudy.
4. Channel 37 feet deep and 600 feet wide from Philadelphia-Camden Bridge to Allegheny Ave. deferred for restudy.
5. Extension of jetties considered to be active.
6. The 10 and 12 foot anchorages are considered inactive.
7. Also May 28, 1935, under Emergency Relief Administration.
8. Deauthorized the remaining portion of the project.

TABLE 3-C OTHER AUTHORIZED NAVIGATION PROJECTS

Active Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Absecon Creek, NJ	COMPLETED	1989	11,935	84,186*
Absecon Inlet, NJ	COMPLETED	1990	534,209[16]	5,985173[17]
Alloway Creek, NJ[1]	COMPLETED	1989	21,398	55,117
Aquatic Plant Control	INACTIVE	1975	87,594	—
Big Timber Creek, NJ	COMPLETED	1989	58,665[2]	71,925*
Broadkill River, DE	COMPLETED	1976	68,228	243,641
Cedar Creek, NJ	ACTIVE	1999	256,100	560,813
Chesapeake and Delaware Canal, St. Georges Bridge Replacement, DE	COMPLETED	2000	—	122,299,786
Cohansey River, NJ	COMPLETED	1995	146,756[20]	3,749,983
Cooper River, NJ[1]	COMPLETED	1989	33,102	396,528*
Delaware Bay to Millville Millville fixed bridge to upper end of project	COMPLETED SEE TABLE 3-F	— —	143,984[21] —	161,913 —
Delaware River Vicinity of Camden, NJ	ACTIVE	2002	4,589,130[29]	3,918,628
Delaware River, Pennsville, NJ	COMPLETED	—	256,624	—
Dennis Creek, NJ[1]	INACTIVE	1897	4,701	—
Double Creek, NJ[1]	COMPLETED	1912	7,800	—[4]
Harbor of Refuge	COMPLETED	1964	5,162,230[18]	1,169,014[19]
Goshen Creek, NJ[1]	INACTIVE	1905	15,359	870
Ice Harbor at Marcus Hook, PA[1,5]	INACTIVE	1928	208,964	14,336
Ice Harbor at New Castle, DE[1,5]	INACTIVE	1898	224,704	—
Indian River Inlet and Bay, DE	ACTIVE	2001	511,210	5,021,385[28]
Inland Waterway from Chincoteague Bay to Delaware Bay	COMPLETED	1981	168,412[11]	98,360[12]
Leipsic River, DE[1]	INACTIVE	1931	36,956	32,345
Little Egg Harbor, NJ[1,3]	INACTIVE	—[6]	15,048	—
Little River, DE	COMPLETED	1980	12,016	288,310
Mantua Creek, NJ	COMPLETED	1966	169,687[7]	339,340*
Maurice River, NJ	ACTIVE	1997	110,000	1,577,194
Neshaminy State Park** Harbor, PA	COMPLETED	1968	128,203[14]	54,601
Oldmans Creek, NJ	COMPLETED	1941	31,188	32,125
Pepper Creek, DE**	COMPLETED	1989	138,094[15]	38,988*
Raccoon Creek, NJ	COMPLETED	1994	83,665[13]	368,001
Salem River, NJ	ACTIVE	2000	6,701,764[26]	3,981,369[27]

TABLE 3-C OTHER AUTHORIZED NAVIGATION PROJECTS

Active Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Schuylkill River above Fairmount Dam, PA[1]	COMPLETED	1955	4,291,810	—[4]
Smyrna River, DE		1949	—	—
Delaware River to Wharf at Smyrna Landing[9]	COMPLETED	—	198,844	197,327
Wharf at Smyrna Landing to fixed bridge.	SEE TABLE 3-F	—	—	—
Toms River, NJ	ACTIVE	1996	10,050	262,485
Tuckerton Creek, NJ	ACTIVE	1999	60,242	1,307,669
Waterway from Indian River Inlet to Rehoboth Bay, DE	ACTIVE	1997	—	340,104
Woodbury Creek, NJ[1]	COMPLETED	1940	27,093[10]	56,474

Deferred Projects	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2003 Operation and Maintenance
St. Jones River, DE		1961	—	—
Delaware Bay to Lebanon[1,8]		—	207,102	66,093
Jetties and new entrance at mouth	DEFERRED	—	—	—

1. Completed.
2. Excludes $50,000 contributed funds expended for new work.
3. Abandonment recommended in House Doc. 467, 69th Congress,1st Sess.
4. Maintenance assumed by local interests.
5. Harbor not now required by commerce.
6. Last appropriation for project was in 1852. No information is at hand relative to work done.
7. Includes $3,000 for new work for previous projects.
8. Includes $54,590 new work and $28,935 maintenance funds expended on previous projects.
9. Includes $55,085 new work and $22,723 maintenance funds expended on previous projects.
10. Includes $2,950 new work funds expended on previous projects.
11. Entire amount expended on previous projects repealed in 1905.
12. Excludes $2,000 contributed funds and includes $25,330 for maintenance for previous project.
13. Encludes $757 new work funds expended on previous projects.
14. Excludes $327,957 contributed funds allotted expended for new work.
15. Excludes $38,988 non-Federal funds.
16. Includes $116,497 for new work on previous projects.
17. Includes $2,489,173 for maintenance for previous projects.
18. Includes $2,749,452 for new work for previous projects.
19. Excludes $1,089 for reconnaissance and condition surveys fiscal year 1963.
20. Includes $36,000 for new work for previous projects.
21. Includes $43,000 new work funds expended on previous projects.
22. Includes $1,950,906 for 30 and 37 foot projects.
23. Includes $39,000 for new work for previous projects.
24. Includes $555,809 for previous projects.
25. Inlcudes $2,054 for maintenance for previous projects.
26. Includes $55,809 for new work funds expended on previous project.
27. Includes $1,285 for reconnaissance and condition surveys in FY 1957, $1,792 Operations and Maintenance cost incurred for preparation of environmental impact statement, and $48,000 expended for maintenance on previous projects.
28. Includes $10,000 for previous projects.
29. Includes $1,950,906 for 30 and 37 foot projects.

* Operation and maintenance figure includes cost incurred for preparation of environmental impact statements.

** Projects authorized by the Chief of Engineers.

TABLE 3-D OTHER AUTHORIZED SHORE PROTECTION PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Brigantine Island	INACTIVE*	—	—	—
Townsends Inlet and Seven Mile Beach, NJ	INACTIVE*	—	—	—

* NO CURRENT YEAR FUNDS.

TABLE 3-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report For	Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Allentown, Lehigh River, PA	COMPLETED	1961	1,615,581	—[1]
Bethlehem, Lehigh River, PA	COMPLETED	1966	4,520,995	—[1]
Glen Foerd, PA	COMPLETED	1999	998,860	—
Hay Creek, Birdsboro, PA	INACTIVE	1984	335,299	—
Mt. Holly, NJ	COMPLETED	1946	283,655	—[1]
Pottstown, PA	ACTIVE	1984	487,366	—
Schuylkill River Park, Phila., PA	ACTIVE	2002	374,517	—
Tamaqua, PA	ACTIVE	1990	628,467[2]	—

1. Maintenance assumed by local interest as required by authorizing project.

2. Transferred from Baltimore District in FY 1989.

TABLE 3-F DEAUTHORIZED PROJECTS

Navigation Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Appoquinimink River, DE[1]	1934	3 Oct 78 HD 95-351	$78,243	—
Delaware County, PA	1931	PL 99-662 52 Stat. 323	$ 7,139	—
Maurice River, NJ Millville fixed bridge to upper end of project[2]	1948	Section 12 PL 93-251	—	—
Oldmans Creek, NJ[3]	1941	2 Nov 79 Section 12 PL 93-251	$63,313	—
Rancocas River, NJ[4]	1942	2 Nov 79 Section 12 PL 93-251	$57,590	—
Smyrna River, DE[5] Wharf at Smyrna Landing to fixed bridge.	1949	2 Nov 79 HD 95-157	$396,169	—

Shore Protection Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Atlantic City, NJ	1972	HD 538 918	$2,083,289	—
Barnegat Light, NJ	1964	HD 208 918	$ 70,908	—
Cape May City, NJ	1961	3 Sep 54 HD 206 918	$ 22,957[7]	—
Corson Inlet and Ludlam Beach, NJ	1978	—	$ 314,400	—
Hereford Inlet	—	—	—	—
Long Beach Island, NJ	1964	14 Jul 60 HD 208 918	$ 40,665	—
Ocean City, NJ	1969	HD 184 918	$ 395,831[9]	—

TABLE 3-F DEAUTHORIZED PROJECTS

Shore Protection Projects (Continued)	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Rehoboth Beach to Indian River Inlet, DE	1965	HD 216 918	$326,116	—

Flood Control Projects	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Aquashicola Reservoir, PA	1963	17 Nov 86 PL 99-662 46 Stat., 918	—	—
Chester River, Delaware County, PA	1931	17 Nov 86 PL 99-662 52 Stat., 323		
Delaware River, Mouth of Neversink	1917	5 Aug 77 HD 94-192	—	—
Lehigh River at Bethlehem, PA[6]	1966	2 Nov 79 Section 12 PL 93-251	$ 4,520,995	—
Maiden Creek Reservoir, PA	1963	17 Nov 86 PL 99-662 46 Stat., 918	—	—
Tocks Island, PA, NJ, and NY[8]	1979	23 Oct 62 PL 87-87	$65,106,260[10]	—
Tocks Island (Relocation of U.S. Route 209 only) PA[8]	1979	23 Oct 62 PL 87-874	$ 195,223	—
Trexler Lake, PA	1981	17 Nov 86 PL 99-662 76 Stat., 1180	—	—

1. Includes $36,973 new work, and $41,270 for maintenance.
2. There is no need now for this portion of the project.
3. Includes $31,188 new work, and $32,125 for maintenance.
4. Includes $44,500 new work, and $13,090 for maintenance.
5. Includes $143,759 new work, $55,085 previous project, $174,602 for maintenance, and $22,723 maintenance, previous project.
6. Maintenance assumed by local interest.
7. Excludes $58,585 Accelerated Public Works funds expended for extention to two groins.
8. National Parks and Recreation Act of 1978 terminated Corps authority to proceed with the project. Legislation would be required to proceed with the project.
9. Excludes cost of $1,146,325 to local interests and $272,766 Federal participation expended under Public Works Acceleration Program for extention of five existing groins completed 11 May 1964.
10. Includes $3,489,088 for AE&D.

BALTIMORE, MD DISTRICT

This district comprises the watershed of Susquehanna River and its tributaries from headquarters in south central New York State through central Pennsylvania to its mouth in Chesapeake Bay; watershed of the Potomac River and its tributaries from headquarters in Maryland, eastern West Virginia, and Northern Virginia to its mouth in Chesapeake Bay; District of Columbia; and southwestern portion of Delaware. It includes that portion of Chesapeake Bay and its tributaries north of Smith Point, MD, on western shore of the bay, and includes that portion of Maryland between Chesapeake Bay and Atlantic Ocean.

IMPROVEMENTS

NAVIGATION

1. BALTIMORE HARBOR AND CHANNELS, MD AND VA

Location. Baltimore Harbor is at the head of the navigable portion of Patapsco River about 12 miles from Chesapeake Bay. The Patapsco River rises near the town of Westminster in Carroll County, MD, and flows generally southeast for about 65 miles to enter Chesapeake Bay. (See National Ocean Survey Chart 12278.)

Existing project.

a. A uniform main channel depth of 50 feet between Cape Charles, VA, and Fort McHenry at Baltimore, MD, with dimensions as follows: (1) Cape Henry Channel: 50 feet deep and 1,000 feet wide from the 50-foot depth curve in the Atlantic Ocean to that depth in Chesapeake Bay, a distance of 3.0 miles; (2) York Spit Channel: 50 feet deep and 1,000 feet wide connecting the 50-foot depth curves in Chesapeake Bay near York Spit, a distance of 18.4 miles; (3) Rappahannock Shoal Channel: 50 feet deep and 1,000 feet wide connecting the 50-foot depth curves in the Chesapeake Bay opposite the Rappahannock River, a distance of 10.3 miles; and (4) Baltimore Harbor Approach Channels: 50 feet deep and generally 800 feet wide, widened at the approach and bends, from the 50-foot depth curve in Chesapeake Bay opposite the mouth of the Magothy River to Fort McHenry on the Patapsco River, a distance of 20.2 miles.

b. Branch channels with dimensions as follows: (1) Connecting Channel to Chesapeake and Delaware Canal Approach Channel: 35 feet deep, 600 feet wide, and 15.6 miles long from the Cutoff Angle in the main channel to the 35-foot depth curves in the natural channel on the east side of Chesapeake Bay which is part of the inland waterway from Delaware River to Chesapeake Bay. The channel includes the Brewerton Extension and Swan Point and Tolchester Channels; (2) Curtis Bay: 50 feet deep, 600 feet wide, and 2.3 miles long from the main channel to and including a turning basin at the head of Curtis Bay; (3) Curtis Creek: (a) a channel, 35 feet deep and generally 200 feet wide, from the 50-foot channel in Curtis Bay to 750 feet downstream of the Pennington Avenue Bridge; (b) a channel, 22 feet deep and generally 200 feet wide, from the 35-foot channel to and along the marginal wharf of the Curtis Bay Ordnance Depot; (c) an irregular shaped 3-acre basin, with a depth of 18 feet, adjacent to the head of the 22-foot channel; (d) a basin, 15 feet deep and 450 feet wide, from the end of the 22-foot channel to the end of the marginal wharf; and (e) a channel, 22 feet deep and 200 feet wide, from the 22-foot channel south of the Baltimore and Ohio Railroad Bridge to the vicinity of Arundel Cove, a distance of 2,800 feet, thence 100 feet wide in Arundel Cove for a distance of 2,100 feet, with an anchorage basin, 700 feet square, adjacent to the channel and southwest of the wharf of the Coast Guard Depot at Curtis Bay; (4) Middle Branch; Ferry Bar East Section: a channel, 42 feet deep and 600 feet wide, from the main channel at Fort McHenry to Ferry Bar, a distance of 1.5 miles; and (5) Northwest Branch: Federal maintenance of 39-foot or 35-foot deep channels after either depth has been provided by local interests: (a) East Channel: a channel, 49 feet deep, 600 feet wide, and 1.0 mile long with a turning basin at the head of the channel from that depth existing at the time of construction; and (b) West Channel: a channel, 40 feet deep, 600 feet wide, and 1.3 miles long with a turning basin at the head of the channel from that depth existing at the time of construction.

c. The following anchorages: (1) Riverview Anchorage No. 2: 30 feet deep, 2400 feet long, and 1,200 feet wide; (2) Riverview Anchorage No. 1: 35 feet deep, 4,500 feet long, and 1,500 feet wide; and (3) Fort McHenry Anchorage: 35 feet deep, 3,500 feet long, and 400 feet wide.

The mean range of tide is 2.8 feet at the Cape Henry Channel, 2.3 feet at the York Spit Channel, 1.4 feet at the Rappahannock Shoal Channel, 0.8 foot at the Craighill Entrance, 0.9 foot in the Cutoff Section, 1.1 feet at Fort McHenry, and 1.2 feet at Pooles Island in the upper Chesapeake Bay. Depths refer to mean low water.

Estimated cost for new work is $361,581,000 which includes: $8,330,000 for completed work through the River and Harbor Act of 1945; $38,411,000 for work completed under the River and Harbor Act of 1958 of which $33,991,000 is Corps of Engineers, $60,000 is U.S. Coast Guard and $4,360,000 is non-Federal; and $314,840,000 (October 1989 prices) for work authorized by the River and Harbor Act of 1970, of which $460,000 is U.S. Coast Guard and $314,380,000 is Corps of Engineers and non-Federal.

Local cooperation. Requirements are described in full on page 4-3 of Fiscal Year 1982 Annual Report.

Terminal facilities. The Port of Baltimore has 45 miles of waterfront of which 25 miles are industrially developed. There are 94 covered and open overseas piers for the loading and discharging of 173 ships, providing 84 general cargo, 65 specialized cargo, and 24 public bulk cargo berths. The existing ground storage is equivalent to 53,700 railroad cars of cargo. There are 31 public general merchandise warehouses, with 4.9 million square feet of storage space and 4.7 million cubic feet of cold storage space. Eight ship-building, ship-repair, and ship-dismantling yards are available for handling up to 90 vessels. The two grain elevators in the port have a capacity of about 8 million bushels. Latest description of terminal facilities is in "Port Series No. 10 (revised 1991)" on Port of Baltimore, MD, (issued by Board of Engineers for Rivers and Harbors).

Operations and results during fiscal year.

New Work, Baltimore District: None.

New Work, Norfolk District: None.

Maintenance, Baltimore District. Condition surveys of the project channels were performed. Dredged material testing of the Maryland channels was initiated in September 2002 and was completed in May 2003. Dredge monitoring studies were initiated in December 2002 and were completed in March 2003. Maintenance dredging, by contract, of the Fort McHenry Channel, Ferry Bar Channel, Riverview Anchorage No. 1, and Riverview Anchorage No. 2 was performed in conjunction with new work dredging of the Baltimore Harbor Anchorages & Channels project. Dredging commenced on March 18, 2002 and was completed on August 7, 2003. A total of 346,352 cubic yards of maintenance material was dredged and placed at the Hart-Miller Island Containment Facility at a cost of $1,890,492. Maintenance dredging, by contract, of the Craighill Entrance, Craighill Channel, Cutoff Angle, and Brewerton Channel Eastern Extension commenced on November 13, 2002 and was completed on January 27, 2003. A total of 1,176,401 cubic yards of material was dredged and deposited in the Poplar Island Environmental Restoration Project in the Chesapeake Bay at a cost of $7,567,458. A contract in the amount of $10,213,750 was awarded on July 31, 2003 to dredge an estimated 1.7 million cubic yards from the Craighill Angle, Craighill Upper Range, Brewerton Angle, Brewerton Channel, Ft. McHenry Channel, and Tolchester Channel and to deposit the material at the Poplar Island Environmental Restoration Project and Hart-Miller Island Containment Facility in the Chesapeake Bay. Dredging commenced on September 21, 2003 and is scheduled to be completed in January 2004.

Maintenance, Norfolk District. Condition surveys were made of the Cape Henry, Rappahannock Shoal and Atlantic Ocean Channels. Maintenance dredging, by contract, of the Cape Henry Channel and York Spit Channel commenced on September 17, 2001 and was completed on November 4, 2002. A total of 2,653,898 cubic yards of material were dredged from the Cape Henry Channel and deposited at the approved Dam Neck Ocean Placement Area in the Atlantic Ocean and a total of 978,846 cubic yards were dredged from the York Spit Channel and deposited at the Wolf Trap Alternate open water placement site in the Chesapeake Bay at a cost of approximately $8,506,210. The contractor submitted a claim requesting an additional $735,286, which was denied by the Contracting Officer.

1A. TOLCHESTER CHANNEL S-TURN, MD

Location. The Tolchester Channel is located along the eastern side of the upper Chesapeake Bay, near Tolchester Beach, Kent County, Maryland (see National Ocean Survey Chart 12278).

Existing Project. The Tolchester Channel is a uniform channel 35 feet deep, 600 feet wide with widening at the bends, and 7 miles long that follows the naturally deeper water along the eastern side of the upper Chesapeake Bay. The mean range of tide is 1.2 feet. Depths refer to mean lower low water. The project provides for constructing a new straight channel 35 feet deep, 600 feet wide, and 2 miles long to replace the existing Tolchester Channel S-Turn, which has several turns within a 3-mile long reach of channel. Section 329 of the Water Resources Development Act of 1999 modified Section 101 of the Rivers & Harbors Act of 1958 to "direct the Secretary to straighten the Tolchester Channel S-Turn as part of the project maintenance".

Local cooperation. Section 101 of the River and Harbor Act of 1958, PL 85-500, 3 Jul 1958 requires locals interests to: (1) furnish without costs to the United States all lands, easements, right-of-way, and dredged material placement areas necessary for construction and subsequent maintenance, when and as required; (2) hold and save the United States free from damages due to construction and maintenance of the project, and (3) provide and maintain all necessary alterations in sewer, water supply, drainage, and other utilities.

Terminal facilities. Terminal facilities are described under the Baltimore Harbor & Channel, MD and VA, Federal navigation project.

Operations and results during fiscal year. Maintenance: Condition surveys of the project channel were performed. The Baltimore Harbor and Channels contract, in the amount of $10,213,750, that was awarded on July 31, 2003, included $535,700 to dredge an estimated 138,000 cubic yards from the straightened Tolchester Channel S-Turn and to deposit the material at the Poplar Island Environmental Restoration Project.

2. BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD

Location. The project area encompasses the 32-square mile area of the Port of Baltimore. The port area of Baltimore includes the navigable part of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and Curtis Bay and its tributary, Curtis Creek.

Existing project. Existing anchorages and branch channels are not of sufficient depth, length and width to accommodate vessels now in operation. The recommended plan will reduce delays and increase efficiency and safety through the following improvements: (1) widen and deepen Federal

Anchorages 3 and 4; (2) widen and provide flared corners for state-owned East Dundalk, Seagirt, Connecting, and West Dundalk branch channels; (3) dredge a new branch channel at South Locust Point; and (4) dredge a turning basin at the head of the Fort McHenry Channel. An estimated 3.9 million cubic yards of material will be dredged for these improvements. The current project cost estimate is $24.8 million including $18.3 million Federal and 6.5 million non-Federal. Following completion of the project, the state of Maryland will reimburse an additional $1.4 million over 30 years to the Federal government.

Local cooperation. The PCA with the State of Maryland was executed December 19, 2001. The sponsor is required to provide lands, easements, rights-of-way, including disposal areas and pay 25 percent of costs allocated to general navigation facilities during construction and pay 50 percent of the costs of incremental maintenance below 45 feet below mean low water. All dredged material from the project is considered contaminated by law, and will be placed in a containment site, the expanded capacity at Hart-Miller Island, to be provided by the non-Federal sponsor. The State will receive credit for proportional costs to modify the site to make it usable for placement of project material.

Terminal facilities. See Section 1 of this text.

Operations and results during fiscal year. New Work: A contract in the amount of $23,700,000 was awarded on February 4, 2002, to construct the authorized project improvements. Dredging commenced on March 18, 2002 and was completed on August 7, 2003. A total of 4,237,207 cubic yards of new work material was dredged and placed at the Hart-Miller Island Containment Facility at an estimated cost of $23,044,264. Negotiations on differing site condition claims were underway at the end of the fiscal year.

3. BALTIMORE HARBOR, MD, COLLECTION AND REMOVAL OF DRIFT

Location. Project applies to Baltimore Harbor, MD, and its tributaries.

Existing project. Provides for collection and removal of drift from Baltimore Harbor and its tributary waters, and authorizes the Secretary of the Army to allot such amounts as may be necessary for work from appropriations for maintenance and improvement of existing river and harbor works or other available appropriations, and that this work shall be carried as a separate and distinct project. It is wholly a work of maintenance. Purpose of work is to afford relief from variable conditions of obstruction.

Local cooperation. None required.

Terminal facilities. See Section 1 of this text.

Operations and results during fiscal year. Maintenance: Operations, by hired labor, consisted of collection and disposal of 28,080 cubic feet of driftwood, ranging from small blocks up to timbers of large dimensions.

4. BONUM CREEK, VA

Location. A tidal estuary of the Potomac River, enters its right bank 18 miles upstream from Chesapeake Bay. It is in Westmoreland County, VA, about 90 miles southeasterly of Washington, DC. (See Coast and Geodetic Survey Chart 12286.)

Existing project. Provides for a channel 60 feet wide and 6 feet deep from that depth in the Potomac River to and including an anchorage basin at the same depth 160 feet wide and 200 feet long in front of the proposed public landing to be provided by local interests. Project also provides for the entrance channel to be protected on both sides by jetties, the north jetty being about 700 feet long and the south jetty being about 300 feet long. Cost of new work for completed project was $205,998 for construction, of which $202,000 was for the Federal cost, exclusive of aids to navigation and pre-authorization and $3,998 was the non-Federal contribution.

Local cooperation. Local interest must furnish lands, and right-of-way for new work and future maintenance; hold the United States free from damages; build and maintain a suitable public landing with adequate approaches thereto; make alterations, relocations, and removals as required of utility facilities, and wrecks and stakes; establish a competent public body to regulate the harbor facilities; and make a lump sum cash contribution of 2 percent of the first cost of general navigation facilities. Assurances of local cooperation were accepted on January 11, 1967.

Terminal facilities. Several small privately owned piers or wharves are available on Bonum Creek. Local interests constructed an oyster packing house and a public landing.

Operations and results during fiscal year. Engineering and design activities were performed for future maintenance dredging of the project.

5. COAN RIVER

Location. On the Virginia side of the Potomac River, in Northumberland County about 100 feet of Walnut Point.

Previous project. N/A

Existing project. A Federal navigation channel 10 feet deep at mean lower low water (plus one foot allowable overdepth) and approximately 60 feet wide from the existing depths on either side of the shoaled

area in the Coan River, protected by a 500-foot long stone jetty (400 feet existing into waterway and 85 feet tie-in to the shoreline).

Local cooperation. Northumberland County is the non-Federal sponsor and have completed their cost-sharing requirements, pending project financial closeout, which is anticipated in fall 2004. Northumberland County has provided 50 percent of the cost of the feasibility study, that was completed in February 2002, and sufficient cash and credits to satisfy the requirements of Section 107 for plans and specifications and construction.

Operations and results during fiscal year. Project construction consists of channel dredging and jetty construction. The channel dredging was initiated in January 2003 and was completed in May 2003. Jetty construction was initiated in August 2003 and is expected to be completed in March 2004. Construction cost is estimated to be $800,000.

6. DUCK POINT COVE, MD

Location. A tidal cove about 4,000 feet long on east shore of Fox Creek, about 2.5 miles above mouth. Fox Creek is a shallow tidal estuary about 4 miles long entering Honga River about 4 miles above its junction with Hooper Strait, which, in turn, connects with Chesapeake Bay on east side, at a point about 15 miles north of mouth of Potomac River. (See Coast and Geodetic Survey Chart 1224.)

Existing project. A channel 60 feet wide and 6 feet deep, from that depth in Fox Creek to a mooring basin of same depth, 100 feet wide and 300 feet long, roughly parallel to county road at head of waterway. Cost of new work for completed project was $25,289.

Local cooperation. Complied with except local interests must, for future maintenance, hold the United States free from damages to oyster beds and furnish spoil-disposal areas. Assurances were accepted by the Chief of Engineers October 26, 1949.

Terminal facilities. There are three privately owned packing-house wharves on north bank of Duck Point Cove which are open to the public for transaction of business with the owners. Facilities area adequate for present needs. The commissioners of Dorchester County constructed a public terminal. Sufficient areas are available for construction of additional terminals if, and when, necessary.

Operations and results during fiscal year. Maintenance: Engineering and design work was accomplished for future maintenance dredging.

7. FISHING CREEK, MD

Location. A narrow winding tidal stream which enters Chesapeake Bay from the west 56 miles south of Baltimore and about 26 miles south of Annapolis, MD. (See U.S. Coast and Geodetic Survey Chart 12266.)

Existing project: A channel 7 feet deep with widths of 100 and 60 feet from deep water in the Chesapeake Bay to an anchorage of same depth, 120 feet wide and 400 feet long, located in marsh 500 feet above mouth of creek, and twin stone jetties at entrance; north jetty is about 1,050 feet long, and south jetty about 1,100 feet long. The mean range of tide is about 1 foot. Cost of new work for the completed project was $111,242.

Local cooperation. Fully complied with except that local interests are to furnish disposal areas as needed for future maintenance.

Terminal facilities. Seven hundred feet of bulkhead wharf are available on the south side of the entrance channel running west from bay shore, and the U.S. Navy Department constructed a pile-and-timber wharf on west side of basin.

Operations and result during fiscal year. Maintenance: A contract in the amount of $375,599 was awarded on July 18, 2003 to dredge 58,454 cubic yards from the project. The dredged material from the outer portion of the channel consisted mainly of sandy material, and was placed along an existing stone revetment. The remainder of the dredged material was placed at an upland placement site.

8. HONGA RIVER AND TAR BAY, MD

Location. Honga River is a tidal estuary of Chesapeake Bay and penetrates Dorchester County on Eastern Shore of Maryland between Hooper Island and the mainland; Tar Bay lies between Barren Island and the mainland and Hooper Island. Fishing Creek connects Tar Bay and Honga River. Back Creek is a branch of Honga River extending into Hooper Island; the mouth is about 2 miles south of Fishing Creek. (See Coast and Geodetic Survey Chart 1224.)

Existing project. Provides for a channel 60 feet wide and 7 feet deep at mean low water from the 7-foot contour in Chesapeake Bay, through Tar Bay and Fishing Creek to the 7-foot contour in Honga River, 25,300 feet long, and a channel in Back Creek 7 feet deep and 60 feet wide from the 7-foot depth curve in Honga River to a point near the head of Back Creek with a turning basin of the same depth 150 feet long and 200 feet wide at the head of channel, about 5,500 feet long. Mean range of tide is about 1.4 feet. Federal cost of new work for the completed project was $66,119.

Local cooperation. Local interests furnished placement areas for future maintenance dredging.

Terminal facilities. Numerous small private wharves are scattered along Fishing Creek and Back Creek. A public wharf is on Fishing Creek. A public wharf, four oyster houses, and a marine railway are on

Back Creek. Facilities are adequate for existing and reasonable prospective commerce.

Operations and results during fiscal year. Maintenance: Engineering and design activities were completed for extending the placement site at Barren Island. Containment will be stone breakwaters constructed offshore. Material will be placed behind the structures and a wetland will be planted. A contract was awarded and work has begun on the breakwaters.

9. KNAPPS NARROW, MD

Location. A small channel separating Tilghman Island from mainland of eastern shore of Chesapeake Bay about 40 miles south of Baltimore, MD. (See Coast and Geodetic Survey Chart 1225.)

Existing project. A channel 9 feet deep at mean low water, 75 feet wide, widened at the bends from deep water in Chesapeake Bay to deep water in Harris Creek, MD. Mean range of tide is 1.4 feet. Cost of new work for completed project was $46,121. Existing project channel was authorized by the Public Works Administration, September 16, 1933, and later adopted by 1935 River and Harbor Act.

Local cooperation. Complied with except local interests must furnish disposal areas as needed for future maintenance.

Terminal facilities. A bulkhead wharf exists on each side of the southerly abutment of the bridge across the Narrows. There are several small-boat landings within the Narrows and several marine railways for repairing boats of a few feet in draft. A bulkhead landing is available for public use at the turning basin.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

10. MONROE BAY AND CREEK, VA

Location. Monroe Bay is an indentation on the right bank of Potomac River in Westmoreland County, VA, 34 miles upstream of Chesapeake Bay and 75 miles downstream from Washington, DC. Monroe Creek is a tidal stream 5 miles long which flows southerly and discharges into Monroe Bay. (See Coast and Geodetic Survey Chart 558.)

Existing project. A channel 8 feet deep, 100 feet wide, and 950 feet long, through the bar at the entrance, and within the creek a channel 7 feet deep, 100 feet wide, and 2,500 feet long, with turning and anchorage basin 500 feet wide at upper end in vicinity of Colonial Beach waterworks. The mean range of tide is 1.56 feet. Cost of new work for completed project was $12,460.

Local cooperation. Fully met.

Terminal facilities. There are numerous wharves and landings in the creek, of which three are open to the public. There are two marine railways.

Operations and results during fiscal year. Maintenance: Engineering and design work was accomplished in connection with the proposed maintenance dredging. Surveys revealed shoaling was not sufficient to warrant dredging.

11. MUDDY HOOK/TYLER COVE, MD

Location. Muddy Hook Cove is a small indentation about 0.7 mile south of Hoopersville on the east side of Middle Hooper Island. Middle Hooper Island is one of a chain of islands separating Honga River from Tar Bay and Chesapeake Bay on the Eastern Shore of Maryland. Tyler Cove is a small tidal indentation on the north side of Fishing Creek which separates Hooper Islands from the mainland. (See Coast and Geodetic Survey Chart 12230.)

Existing project. An entrance channel 60 feet wide and 6 feet deep from that depth in Honga River to an anchorage basin of the same depth, 160 feet wide and 400 feet long, in Muddy Hook Cove. Project also provides an entrance channel, 60 feet wide and 6 feet deep, from the existing channel in Fishing Creek (See Honga River and Tar Bay project) into Tyler Cove and includes an anchorage basin 200 feet wide, 250 feet long, and 6 feet deep. Federal cost of new work for the completed project was $61,917. Existing project was approved for accomplishments under general authority provided by section 107, River and Harbor Act of 1960.

Local cooperation. Local interests have furnished the pipeline route to Barren Island. This job is being performed in conjunction with the Honga River project.

Terminal facilities. Local interests have, under terms of local cooperation, provided a public landing at Tyler Cove. A few privately owned piers are on Muddy Hook Cove. Local interests provided a public landing at Muddy Hook Cove, in accordance with the terms of local cooperation.

Operations and results during fiscal year. Maintenance: Engineering and design was accomplished and a contract awarded for the maintenance dredging.

12. NANTICOKE RIVER, MD

Location. The Nanticoke River flows in a south-westerly direction to Tangier Sound, Chesapeake Bay, and is about 50 miles long. The town of Nanticoke, MD, is on the east side of the river, about 3 miles from the mouth, just north of Roaring Point. (See Coast and Geodetic Survey Chart 567.)

Existing project. Provides for a small-boat harbor 7 feet deep, 120 feet wide, and 400 feet long in the marsh at Nanticoke, with an entrance channel of the same

depth and 60 feet wide; protected by twin stone jetties in the river, the north jetty being about 870 feet long and the south jetty being about 770 feet long. The mean range of tide is about 2.6 feet. The cost of new work for the completed project was $73,243.

Local cooperation. Fully met except that local interests are to furnish placement sites as required for subsequent maintenance and guarantee the United States and its contractors against claims for damages to oyster beds attributable to subsequent maintenance.

Terminal facilities. There are three privately owned wharves open to the general public.

Operations and results during fiscal year. Maintenance: A contract in the amount of $490,467 was awarded on August 14, 2002, to dredge 23,918 cubic yards from the harbor. The project was completed in January 2003.

13. OCCOQUAN RIVER, VA

Location. Occoquan Creek is formed by the junction of Bull and Broad Runs, about 5 miles southeast of Manassas, VA, and flows about 13 miles in a southeasterly direction, emptying into the Potomac River about 26 miles below Washington, D.C. (See Coast and Geodetic Survey Chart 560.)

Previous project. The original project was adopted by the River and Harbor Act of March 3, 1873. For further details see page 1792, Annual Report for 1915, and page 363, Annual Report for 1936.

Existing project. Provides for a channel 6 feet deep and 150 feet wide from deep water in the Potomac River to Taylors Point, and thence 100 feet wide to the town of Occoquan 6 miles from the mouth, and the protection of the channel above Taylors Point by riprap stone dikes 2,200 feet long. Mean range of tide is 2.0 feet.

Local cooperation. A non-federal sponsor needs to sign a Project Cooperation Agreement (PCA) with the Corps and be willing to cost-share construction of the project modifications on a 90% Federal/10% non-Federal basis. In addition, the non-Federal sponsor must pay an additional 10% of the project cost in cash over a period not to exceed 30 years.

Operations and results during fiscal year. New Work: Feasibility phase investigation underway to determine if the project modifications are economically justified. Prince William and Fairfax County, Virginia submitted Letters of Intent to provide the necessary requirements for local cooperation, including signing the PCA.

14. OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD

Location. Ocean City is on a barrier island between Sinepuxent Bay and Atlantic Ocean about 35 miles south of entrance to Delaware Bay. (See U.S. Coast and Geodetic Survey Chart 12211.)

Existing project. This provides for an inlet channel 200 feet wide and 10 feet deep through the inlet to the channel in the Isle of Wight Bay, protected on the south side by a stone jetty with a top elevation of 8.8 feet above mean low water and a top width of 18 feet, and on the north side by a stone jetty with a top elevation of 9 feet above mean low water and a top width of generally 20 feet, thence generally 100 feet wide and 6 feet deep to the project harbor; a channel 6 feet deep and 150 feet wide in Sinepuxent Bay from the inlet to Green Point, and thence 100 feet wide in Chincoteague Bay; and for a channel 6 feet deep and 125 feet wide from the inlet channel to a point opposite North Eighth Street in Ocean City, thence 75 feet wide into the Isle of Wight Bay. The modification authorized by the 1954 River and Harbor Act was de-authorized in December 1989. This work included 16- and 14-foot depth channels with widths from 300 to 100 feet from the Atlantic Ocean to the head of the harbor. Depths in the inlet channel and harbor refer to project datum. Depths in the bay channels refer to mean low water.

The elevation of mean low water in the bays above mean low water in the ocean at Ocean City varies from about 0.8 foot in the vicinity of the inlet to 1.7 feet at their heads. The mean range of ocean tide is 3.4 feet. The extreme range is from 3 feet below mean low water to about 3.5 feet above mean high water, a total of 9.9 feet. In the bays the mean range of tide varies from approximately 2.5 feet at the inlet to 0.3 foot at their heads. Greater fluctuations are caused by prolonged high winds. Federal cost of new work for the completed project was $1,190,530, exclusive of $500,000 contributed by local interests and exclusive of $3,700,000 for rehabilitating the south jetty.

Local cooperation. Fully met except local interests must furnish disposal areas for future maintenance as needed.

Terminal facilities. On bay side of Ocean City: two storage basins, for pleasure and small commercial craft, and numerous privately owned pile-and timber piers and bulkhead wharves. At project harbor: a public landing about 1,000 feet long, several privately constructed bulkhead wharves open to the public for transaction of business with the owners, and a boat repair yard with a marine railway capable of handling boats up to about 150 tons. All piers and wharves are accessible by highway. Port facilities have been expanded to include all available space in the Fish Harbor.

Operations and results during fiscal year. Maintenance: Construction began on the south jetty rehabilitation contract in April 2002 and completed in January 2003 at a total cost of $3,980,350. The Isle of Wight channel was dredged in August 2003 with the removal of about 23,000 cubic yard of material. The

material was used in conjunction with a CAP project at Isle of Wight.

15. POCOMOKE RIVER, MD

Location. Pocomoke River is a tributary of Pocomoke Sound, a tidal estuary on the east side of Chesapeake Bay about 40 miles north of Cape Charles, VA.

Existing project. Provides for a channel 11 feet deep at mean low water and 150 feet wide from the 11-foot depth in Pocomoke Sound to Tulls Point, thence 100 feet wide to deep water in Pocomoke River above Williams Point, and for construction of a dike along the offshore side of channel between Tulls Point and the end of the existing dike; and a channel 9 feet deep at mean low water and 100 to 130 feet wide from Shad Landing to the bridge at Snow Hill. Length of project is about 8.7 miles from Pocomoke Sound to Williams Point, and about 4.5 miles from Shad Landing to Snow Hill, MD. Shad Landing is about 25.7 miles above the mouth of the river.

Mean range of tide is 2.4 feet in Pocomoke Sound and 2.5 feet in the river at Snow Hill. Prolonged high winds on Chesapeake Bay frequently cause greater fluctuations. Estimated cost (1969) for new work is $1,071,458 exclusive of amounts expended under previous projects. Extensions of channel above the bridge at Snow Hill, 100 feet wide, 9 feet deep and widened to 150 feet to form a turning basin at upper end was de-authorized and is excluded from the foregoing estimate.

Local cooperation. Compiled with for section of project from Pocomoke Sound to Pocomoke River and from Shad Landing to the highway bridge at Snow Hill, authorized by acts of June 3, 1986, and August 30, 1935, except local interests must furnish releases from damage to oyster beds and spoil disposal areas as required for future maintenance. Terms for the section of the project above the highway bridge at Snow Hill, authorized by act of March 2, 1945, required local interests to furnish all lands, easements, rights-of-way, and spoil disposal areas for initial work and future maintenance, hold the United States free from damages resulting from the improvement; and contribute one-half the initial cost of that portion of project, but not to exceed $4,250. This portion was de-authorized. Terms for the 11-foot depth channel from Pocomoke Sound to deep water in Pocomoke River above Williams Point, authorized by act of September 3, 1954, and de-authorized in December 1989 required local interests to provide all lands, easements, rights-of-way, and spoil disposal areas for construction and future maintenance of the project; and hold the United States free from damages due to construction and maintenance, including such damages as may occur to the public or leased oyster beds.

Terminal facilities. Waterfronts at Pocomoke City and Snow Hill are built up principally with earthfilled timber bulkheads, the majority of which are privately owned. A few of the warehouses and factories on the river at these communities have railroad sidings and mechanical freight-handling facilities. Any appreciable increase in commerce at Pocomoke City or Snow Hill would necessitate construction of new facilities and repair of existing structures. Adequate space is available for development of additional terminals.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

16. POTOMAC AND ANACOSTIA RIVERS, DC, COLLECTION AND REMOVAL OF DRIFT

Location. Project applies to the Potomac and Anacostia Rivers, Washington, DC, and their tributaries.

Existing project. Collection and removal of drift from the waters of the Potomac and Anacostia Rivers and their tributaries in the Washington area from the head of tidewater to Mount Vernon, VA. Total length of project, considering both sides of the waterway, is about 50 miles.

Local cooperation. None required.

Terminal facilities. See Section 22 of this text.

Operations and results during fiscal year. Maintenance: Operations by hired labor consisted of collection and disposal of 205,200 cubic feet of driftwood, ranging from small blocks up to timbers of large dimensions.

17. POTOMAC RIVER BELOW WASHINGTON, DC

Location. Potomac River is formed 21 miles below Cumberland, MD, and flows southeasterly about 285 miles and enters Chesapeake Bay, about 80 miles from Atlantic Ocean. Washington, DC is 108 miles upstream of mouth, and head of tidewater is at mile 117. (See Coast and Geodetic Survey Charts No., 12233, 12286, 12287, 12288, and 12289.)

Existing project. Provides for a channel 24 feet deep and 200 feet wide between the mouth of the river and Giesboro Point at Washington, DC--a distance of 108 miles. Plane of reference is mean low water. Tidal ranges are: mean, 1.3 feet at mouth, 2.9 feet at Washington; irregular, 2 feet at mouth, 4.5 feet at Washington; extreme, about 6 feet at mouth, 10.7 feet at Washington. Federal cost of new work for the completed project was $153,836.

Local cooperation. None required.

Terminal facilities. In general, the improvement is a main river channel, and terminal facilities are only served where the channel runs close to either bank of river.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

18. PREVENTION OF OBSTRUCTIONS AND INJURIOUS DEPOSITS, MD

Location. Project applies to tidal waters of the harbor of Baltimore and its adjacent and tributary waters and to all tidal waters of Chesapeake Bay and in Maryland.

Existing project. Patrol and inspection throughout the project location to detect violations of sections 13 and 15 of the River and Harbor Act of March 3, 1899 and to investigate obstructions to navigation pursuant to Federal regulations (33 CFR 209.109).

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Operations, by Supervisor of Harbor of Baltimore included inspections of approximately 81 Federal navigation channels within the project location to insure channels are not obstructed to general navigation by debris, sunken vessels/wrecks, and fishing appurtenances. There were 117 investigations of obstructions or sunken vessels/wrecks.

19. RHODES POINT TO TYLERTON, MD

Location. Rhodes Point and Tylerton are two settlements about 1.5 miles apart on Smith Island, between Chesapeake Bay and Tangier Sound, about 60 miles north of Virginia Capes, and about 110 miles south of Baltimore. (See U.S. Coast and Geodetic Survey Chart 1224.)

Existing project. Channel 6 feet deep, 50 feet wide from that depth in Tyler Creek to and including an anchorage basin of the same depth 150 feet wide and 400 feet long at Tylerton; channel 6 feet deep and 50 feet wide from that depth in Big Thorofare River to Tylerton; and Channel 6 feet deep and 50 feet wide from Rhodes Point to Tylerton. Mean range of tide is 1.7 feet. On January 22, 1982, the Chief of Engineers under authority of Section 107 of the 1960 River and Harbor Act, as amended, authorized a channel 6 feet deep and 50 feet wide a distance of about one mile from the anchorage basin at Rhodes Point through Sheep Pen Gut to deep water in the Chesapeake Bay.

Local cooperation. Fully met except local interests must furnish placement sites for future maintenance dredging.

Terminal facilities. There are numerous pile-and-timber wharves along waterfronts at Rhodes Point and Tylerton. Facilities are privately owned, open to the public without charge when not in use by the owners, and are adequate for existing commerce. Sufficient space for construction of additional facilities is available, if required.

Operations and results during fiscal year. Maintenance: A contract in the amount of $3,120,793 was awarded on December 19, 2001 to dredge 258,000 cubic yards from Rhodes Point to Tylerton and Twitch Cove & Big Thorofare. The Rhodes Point to Tylerton portion of 122,000 cubic yards was completed in April 2002. A portion of the material was used to seal a breach at the Martin Wildlife Refuge. The Twitch Cove & Big Thorofare portion of 136,000 cubic yards was completed in February 2003.

20. TILGHMAN ISLAND HARBOR, MD

Location. This harbor (also called Dogwood Harbor) is about 60 miles southeast of Baltimore Harbor on the eastern side of Tilghman Island, which lies between Chesapeake Bay and Choptank River. (See Coast and Geodetic Survey Chart 78.)

Existing project. Provides for a channel 60 feet wide and 6 feet from that depth in Harris Creek to and including an anchorage basin of irregular shape 500 feet long by 200 feet wide, with a 6-foot depth. On October 20, 1980, the Chief of Engineers under authority of Section 107 of the 1960 River and Harbor Act, as amended, authorized construction of a breakwater at the harbor entrance. The estimated first cost of this work is $249,000, of which $245,000 is Federal cost and $4,000 is required local cash contributions.

Local cooperation. Fully complied with for work authorized May 13, 1966, except that local interests must furnish all lands, and rights-of-way for future maintenance as needed and maintain a suitable public landing as needed with adequate approaches thereto. For work authorized by the Chief of Engineers October 20, 1980, local interests have fully complied (excluding furnishment of lands and right-of-ways for future maintenance). For details of requirements see section 23 of the 1982 Annual Report.

Terminal facilities. Consists of one pier operated by a local seafood packer for transfer of seafood to processing plant. Local interests will construct a public landing and approach road thereto in accordance with terms of local cooperation as part of the project development.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging.

21. TALL TIMBERS, MD

Location. Herring Creek in St. Mary's County, MD, is a small tidal stream 1 ¾ miles in length which flows in a westerly direction and enters the north bank of the Potomac River 16 miles upstream of its mouth at Chesapeake Bay and 92 miles downstream from Washington, DC (See U.S. Coast and Geodetic Survey Chart No. 557.)

Existing project. This provides for an entrance channel 6 feet deep, 60 feet wide, and approximately 1,630 feet long extending from deep water in the Potomac River to deep water within the creek, a turning basin of irregular shape 6 feet deep adjacent to the proposed public wharf, and riprap-stone jetties on the upstream and downstream sides of the entrance channel 770 and 650 feet long, respectively. The plane of reference is mean low water. The tidal ranges are: Mean, 1.6 feet; irregular, 1.9 feet; and extreme, approximately 7 feet. The project was modified in 1986 under Section 111 of the River and Harbor Act of 1968. The modification consists of constructing 250 feet of beachfill, 2,187 linear feet of stone revetment and upgrading 350 linear feet of existing revetment along the Tall Timbers waterfront south of the project inlet to preclude shoreline erosion induced by the project jetties.

Local cooperation. The Local Cooperation Agreement (LCA) includes the following provisions.

1. Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
2. Provide without cost to the United States, when and as required all lands, easements, rights-of-way and soil-disposal areas necessary for the construction and subsequent maintenance of the project.
3. Hold and save the United States free from damages to other property resulting from the improvement.

Terminal facilities. There are a number of small wharves and landings within the creek, all privately owned. The facilities are considered adequate for present commerce.

Operations and results during fiscal year. Maintenance: A contract was awarded to repair the bulkhead behind the revetment. Work was completed in September 2003.

22. TWITCH COVE AND BIG THOROFARE, MD

Location. A tidal waterway about 4 miles long traversing Smith Island, MD, southeasterly from Chesapeake Bay on the west to Tangier Sound on the east. (See U.S. Coast and Geodetic Survey Chart 1224.)

Existing project. A channel 7 feet deep at mean low water and 60-feet wide from Twitch Cove on Tangier Sound through Big Thorofare, thence through canal at Ewell, MD, thence through Levering Creek and Big Thorofare to vicinity of Swan Point, thence of same depth and 100 feet wide through offshore bar to deep water in Chesapeake Bay, with twin stone jetties at entrance, north jetty is about 2,080 feet long, and south jetty about 1,800 feet long; and anchorage basin 7 feet deep, 100 feet wide, and 700 feet long connecting with west side of existing project channel at Ewell; extension of existing project channel in Levering Creek, 6 feet deep, 60 feet wide, and 1,000 feet long; and a channel 4 feet deep and 25 feet around point between Big Thorofare and Tylers River. Mean range of tide is 1.7 feet, and extreme tidal range is 3 feet. Federal cost of new work for completed project was $193,175.

Local cooperation. Fully complied with, except that local interests are to furnish placement sites for future maintenance as needed.

Terminal facilities. Numerous privately owned pile-and-timber wharves and bulkheads at Ewell are open to the public for business transactions with the owners. A county wharf is also at west end of town. Five crab houses are on Levering Creek, and one oyster house on project waterway west of Town of Ewell.

Operations and results during fiscal year. Maintenance: A contract in the amount of $2,849,187 was awarded on December 19, 2001 to dredge 220,000 cubic yards from Rhodes Point to Tylerton and Twitch Cove & Big Thorofare was completed in January 2003.

23. UPPER THOROFARE, MD

Location. Natural waterway lying between Deal Island and mainland of Somerset County, MD, on eastern shore of Chesapeake Bay. (See U.S. Coast and Geodetic Survey Chart 1224.)

Previous project. For details see page 277 of Annual Report for 1962.

Existing project. Entrance channel from Tangier Sound 9 feet deep and 100 feet wide, thence of irregular width to and along south shore of Thorofare, protected by two stone breakwaters at entrance, north breakwater is about 410 feet long and south breakwater about 310 feet long, with a turning basin at inner end 9 feet deep on south side of channel to within 50 feet of bulkhead along south shore, an anchorage area 6 feet deep and 150 feet wide extending across waterway parallel to highway bridge to within 50 feet of bulkhead on south shore, and an anchorage area 650 feet long, 300 feet wide, and 9 feet deep on north side of channel between breakwater and 6-foot anchorage. Mean range of tide is about 2 feet.

Local cooperation. Fully complied with.

Terminal facilities. A small packing-house wharf on shore of Tangier Sound south of project channel: two small packing houses along approach channel at which seafood is landed; and a public wharf at turning basin with a suitable road connecting it with the road system.

Operations and results during fiscal year. Maintenance: Engineering and design activities were performed for future maintenance dredging of the project.

24. WASHINGTON HARBOR, DC

Location. Within the District of Columbia at junction of the Anacostia River with the Potomac River which flows southeasterly 108 miles to the Chesapeake Bay. It is southerly 202 miles by water from Baltimore, MD, and northerly 195 miles from Norfolk, VA. (See U.S. Coast and Geodetic Survey Chart 12289.)

Existing projects. The Washington Harbor project provides for a channel in the Potomac River from Giesboro Point to Key Bridge, a second channel from Giesboro Point to the end of Washington Channel, and a third channel from the mouth of the Anacostia River to the foot of 15th Street, SE, with turning basins opposite the Naval Weapons Plant (800 feet wide 2,400 feet long) and at the head of the Anacostia Channel (400 feet square). Channel dimensions are 24 feet deep and 400 feet wide except upstream from Anacostia Channel Bridge where the width is reduced to 200 feet and from Giesboro Point to a point 3,000 feet downstream of Arlington Memorial Bridge and above Easby Point where channel dimensions are 20 feet deep and 200 feet wide. Channel lengths including turning basins are: Virginia Channel, 5,000 feet; Washington Channel, 10,000 feet; and Anacostia River, 15,000 feet; and operations and maintenance of the inlet gates and lock and the outlet gates of the Tidal Basin constructed under a previous project to flush Washington Channel. Plane of reference is low-water datum which is .35 foot below mean low tide as observed from 1932 to 1942. Tidal ranges are: mean, 2.9 feet; irregular, 4.5 feet; and extreme, 10.7 feet. Federal cost of new work for the completed project was $162,006.

Local cooperation. None required.

Terminal facilities. There are four wharves generally of bulkhead type on Virginia Channel that are privately owned and not open to the public except by special arrangement. On Washington Channel there are four piers under jurisdiction of District of Columbia, two of which are open to the public and one open to the public by special arrangement. In Anacostia River there are four privately owned piers and eight government piers and slips. None of the piers is open to the public except by special arrangement. Terminal facilities are considered adequate for existing commerce.

Operations and results during fiscal year. Maintenance: The tidal basin gates were inspected and maintained by hired labor.

25. WICOMICO RIVER, MD

Location. Wicomico River has its source in northern part of Wicomico County, MD, and flows generally southwardly emptying into Monie Bay, a tributary of Tangier Sound on the east side of Chesapeake Bay about 85 miles southeast of Baltimore. Webster Cove is the site of an improved small-boat harbor on southeast bank of Wicomico River about 3 miles above the mouth. (See U.S. Coast and Geodetic Survey Charts 567 and 1224.)

Existing project. Channel 14 feet deep and 150 feet wide from Chesapeake Bay to Salisbury, about 37 miles long, including about 12 miles from the mouth of river to Chesapeake Bay; 14 feet deep in channels and turning basins in north and south prongs with channel widths of 100 feet, and a channel 6 feet deep and 60 feet wide extending from 6-foot contour in Wicomico River to and including a basin in Webster Cove of the same depth, 100 feet wide and 400 feet long; and extension of basin 200 feet long and 100 feet wide on each side. Plane of reference is mean low water. Mean range of tide is about 3 feet, and extreme tidal range is 4.4 feet. Cost of new work for the completed project was $421,609, exclusive of amounts expended on the previous project.

Local cooperation. Fully met, except that local interests are to furnish disposal areas for future maintenance as needed and hold the United States free from such damages as may occur to public or leased oyster beds.

Terminal facilities. Present waterfront at Salisbury consists of pile-and-timber bulkheads with earthfills. Some wharves have warehouses and factories with mechanical freight-handling facilities and rail sidings. All terminals are privately owned. A shipyard, with two marine railways with capacities of 1,200 and 500 tons, respectively, is on right bank of river below prongs. Areas for development of new terminals on north prong are limited. Areas for considerable expansion of terminal facilities are available on main river. There is a pile-and -timber wharf about 4 miles above the mouth of river at Mount Vernon. A wharf of similar construction is at White Haven. There is a county wharf at head of basin in Webster Cove, a pile-and-timber pier at oyster house on southwest side of basin, a T-shaped pile-and-timber pier at cafe on southwest side of basin and several small timber piers on walkways that local interests constructed around the basin. Fueling facilities are available for construction of additional facilities when required.

Operations and results during fiscal year. Maintenance: Dredging contract completed in September 2003 to remove 200,000 cubic yards at a cost of $1,755,000.

26. RECONNAISSANCE AND CONDITION SURVEYS

(See Table 4-H at end of chapter.)

27. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Fiscal year costs were $9,626 for Section 107 Coordination; $36,007 for Rockhold Creek, MD; $52,747 for Ocean City Harbor and Inlet, MD; $104,756 for Rhodes Point, MD; $12,693 for Nanticoke Harbor, MD; $3,636 for North West Harbor, MD and $45,008 for Tall Timbers, MD.

Non-Federal contributed costs for the fiscal year were; $21,193 for Tedious Creek Dorchester, MD and $15,363 for Rockhold Creek.

SHORE PROTECTION

28. ASSATEAGUE ISLAND, MD

Location. The Town of Ocean City and adjacent areas of Worcester County comprise an area of 625 square miles including Assateague Island, Ocean City Inlet, and Chincoteague, Sinepuxent, Assawoman, and Isle of Wight Bays on the Eastern Shore of Maryland. Adjacent to Ocean City is the Assateague Island National Seashore and State Park.

Existing project. The project involves the short-term and long-term restoration of Assateague Island. The short-term restoration plan includes dredging of approximately 1.4 million cubic yards from Great Gull Bank and placing it on Assateague Island in the area between 1.6 miles and 7.2 miles south of the south jetty. The beach will be widened varying distances and a low storm berm will be constructed to elevation 3.3 meters. The long-term portion of the project consists of the mobile bypassing of 190,000 cubic yards of sand around the inlet. Both the short-term and long-term projects include monitoring components. The project area is composed of 4.7 miles of National Park Service and 0.9 miles of State of Maryland land.

Local cooperation. The sponsor for the project is the National Park Service who administers the Assateague Island National Seashore. The National Park Service will provide lands, easements and rights-of-way for the initial construction work.

Operations and results during fiscal year. New Work: Memorandum of Agreement executed between Corps and the National Park Service. Short-term costs will be 100% Corps funded and Long-term costs will be 50% Corps and 50% National Park Service. The construction contract for the short-term portion was awarded September 2001 to Weeks Marine, Inc. in the amount of $9,675,000. Construction started in July 2002 and was completed in January 2003. Monitoring activities for both the short-term and long-term portions of the project continued throughout the fiscal year.

29. ATLANTIC COAST OF MARYLAND

Location. The project is located on Fenwick Island at Ocean City, MD, which is about 35 miles south of the entrance to Delaware Bay. (See U.S. Coast and Geodetic Survey Charts 1220.)

Existing project. The authorized project provides for a steel sheetpile bulkhead along the oceanward edge of the boardwalk from about 4th Street to 27th Street and a sand dune from 27th Street to about 0.3 mile across the Delaware line. The bulkhead is fronted by a 165-foot wide beach, and the dune is fronted by a 100-foot wide beach. The project also provides for periodic nourishment over the 50-year project life. The current estimated total project cost is $500,000,000 (including a future inflation allowance through the project completion) which includes $44,881,000 for initial construction and $455,119,000 for periodic nourishment.

Local cooperation. The State of Maryland is the project sponsor and the Local Cooperation Agreement was executed March 30, 1990. The sponsor is required to: provide lands, easements, and rights-of-way; modify or relocate buildings, utilities, roads, bridges and other facilities; pay 35% of the first costs and 47% of periodic nourishment costs; and bear all costs of operation maintenance, replacement and major rehabilitation of storm damage reduction facilities. To date the sponsor has fully met these requirements.

Operations and results during fiscal year. New Work: Beach monitoring continued throughout the fiscal year. A General Re-evaluation study was initiated to address future sand borrow sources and areas of the project experiencing persistent erosion.

30. SHORE PROTECTION WORK UNDER SPECIAL AUTHORIZATION

Shore Protection pursuant to Sec. 103 of Public Law 727, as amended (pre-authorization). None.

FLOOD CONTROL

31. CUMBERLAND, MD, AND RIDGELEY, WV

Location. On the North Branch of the Potomac River, 21 miles upstream from its junction with the

South Branch of the Potomac River and 197 miles upstream from Washington, DC. The Chesapeake and Ohio (C&O) Canal stretches 184.5 miles along the Potomac River from the District of Columbia to its terminus in Cumberland, MD, Allegany County. (See Geological Survey Quadrangles, Frostburg and Flintstone, MD, WV, and PA.)

Existing project. Channel improvements on the North Branch of Potomac River from the Western Maryland Railway bridge in South Cumberland upstream to the mouth of Wills Creek, with levees and fill along the left bank and levees along the right bank from downstream corporate limits of Ridgeley, WV, to a point about 150 feet above Johnson Street Bridge; channel improvements along Wills Creek from its mouth upstream to a point in the Narrows about 500 feet upstream from the highway bridge on U.S. Highway 40; levee and flood wall in West Cumberland, MD, on the left bank of the North Branch of the Potomac River from the mouth of Wills Creek upstream to Kelly Boulevard; levee and flood wall in Ridgeley, WV, on the right bank of the North Branch of the Potomac River from Carpenter Avenue upstream to Patapsco Street near the upstream corporate limits of Ridgeley, WV; interior drainage facilities in Cumberland and West Cumberland, MD, and Ridgeley, WV; removal of the Chesapeake and Ohio Canal dam and construction of a new industrial dam on the North Branch of the Potomac River immediately above mouth of Wills Creek; and alteration and reconstruction of highway and railroad bridges.

Section 580 of WRDA 99 authorizes the Secretary of the Army to undertake "restoration of the historic Chesapeake and Ohio Canal substantially in accordance with the Chesapeake and Ohio Canal National Historic Park"...The plan envisioned is to re-build and rewater up to 1.1 miles of the historic C&O Canal terminus at Cumberland. The turning basin was filled in by the Corps in the 1950's as part of the Cumberland, Md-Ridgeley, WV Flood Protection Project. The project is currently authorized at $15M.

Local cooperation. Fully met for the project. The City of Cumberland is the non-Federal sponsor for the new work. The local sponsor is required to provide 35% of the cost of the project, including lands, easements, rights-of-way, and relocations. In-kind services are permitted to count towards the sponsor's share to include those incurred prior to a signed project cooperation agreement. The National Park Service (NPS) is responsible for operation and maintenance.

Operations and results during fiscal year. New Work: Rewatering design is 95 percent complete. Maintenance: Normal operation and maintenance of the flood protection project continued.

32. JENNINGS RANDOLPH LAKE, MD AND WV

Location. Project is located on the North Branch Potomac River on the state line between Garrett County, MD, and Mineral County, WV. The damsite is located approximately 7.9 miles upstream from the confluence with Savage River at Bloomington, MD. It is also about 5 air miles southwest of the tritowns of Luke and Westernport, MD and Piedmont, WV. (See Geologial Survey quadrangle sheets, Kitzmiller and Westernport, MD.)

Existing project. The improvement consists of a rolled earth and rock fill dam with an impervious core and an 800-foot long dike on the left bank. Top of dam is 296 feet above streamed with a total length of 2,130 feet. When filled to spillway crest, the reservoir will extend about 6.6 miles upstream and inundate 965 acres. Flood control storage of 36,200 acre-feet is provided. Storage available for low flow augmentation for water supply and water quality improvement is 92,000 acre-feet. The reservoir controls a drainage area of 263 square miles. Recreation facilities are provided for picnicking, camping and boating. Final project cost is $176,325,300.

Local cooperation. See page 4-15 of the 1977 Annual Report for requirements. A water supply contract between the Federal Government and the Washington Suburban Sanitary Commission in concert with the Fairfax County Water Authority, VA and the District of Columbia was executed for repayment of all water supply costs. The first of 50 annual payments began in July 1981. Federally approved water quality standards put into effect by Maryland, Virginia, West Virginia, and the District of Columbia are considered satisfactory assurances of intent to control pollution. Satisfactory assurances have been received from Maryland, West Virginia, and Virginia that they will protect downstream channels from encroachment that would adversely affect operation of the project. Local interests operate a white water access area below the dam. The State of Maryland has constructed a recreation area on the Maryland side of the lake.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continues. Construction of beach and support facilities on the WV side of the lake completed August 2003. Construction was started on upgrades to project security features.

33. LACKAWANNA RIVER BASIN, PA

Flood Control Act of 1962 authorized construction of Aylesworth Creek Lake, Fall Brook Lake, and local protection works on Lackawanna River at Scranton, PA, substantially as recommended by the Chief of Engineers (S. Doc. 141, 87th Cong., 2d Sess.). The

Basin includes an area of 346 square miles in northeastern Pennsylvania.

33A. AYLESWORTH CREEK LAKE, PA

Location. Project is located in Lackawanna County on Aylesworth Creek about one mile above its confluence with the Lackawanna River, near the community of East Jermyn, PA.

Existing project. Provides for an earthfill dam with a maximum height of 90 feet above streambed and a top length of 1,200 feet. The spillway located adjacent to the left abutment is an open cut channel 80 feet wide with a concrete sill. The outlet works consist of a 3-foot diameter uncontrolled conduit. Project controls a drainage area of 6.2 square miles and provides flood control storage of 1,700 acre-feet equivalent to 5.1 inches of runoff from the drainage areas. The lake will extend about 4,600 feet and inundate 87acres when filled to spillway crest. Recreation facilities constructed by local interests include a bathing beach, bathhouse, and picnic area. Federal cost of new work was $2,268,200 of which $2,153,559 was for construction and $114,641 for lands and damages. In addition $52,200 Federal and $52,200 non-Federal funds were expended for construction of bathhouse facilities under the recreation facilities for completed projects program.

Local cooperation. None required. The Aylesworth Creek Reservoir Park Authority, representing the Boroughs of Archbald and Jermyn, operate and maintain limited day use facilities including a small beach.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

34. LOYALSOCK CREEK, WARRENSVILLE, ROAD, PA

Location. The project encompasses a portion of Warrensville Road in Loyalsock Township, situated adjacent to Loyalsock Creek in Lycoming County, Pennsylvania. The study area comprises the east bank of Loyalsock Creek, approximately 1,500 feet upstream of the Interstate 180 bridge over the creek to approximately 2500 feet upstream of the same bridge.

Existing project. The stream bank stabilization project consists of constructing approximately 1,500 linear feet of stone berm with wing deflectors tied back into the bank to minimize further erosion.

Local Cooperation. Loyalsock Township is the non-Federal sponsor and will be providing 35% of the implementation costs.

Operations and results during fiscal year. A construction contract was awarded in late summer 2003. The contractor has been acquiring the necessary construction permits from the state. Construction will be completed in September 2004. The construction cost is estimated to be $447,000.

35. LYCOMING COUNTY FLOOD WARNING SYSTEM, PA

Location. Lycoming County is located in north central Pennsylvania. The study area covers approximately 1,234 square miles and contains 2,200 miles of streams. Six major tributary creeks and the Susquehanna River flow through the study area.

Existing Project. The project consists of the construction of 20 in-stream water level measuring and reporting gauges; a signal transmission system that includes 29 transmitters, two tower-mounted digital antenna transmitters, relays, and receivers; and a digital reception and interpretation system at the County's Emergency Operations Center.

Local cooperation. Lycoming County is the non-Federal sponsor and have completed their cost-sharing requirements, pending project financial closeout, which is anticipated in fall 2004. Lycoming County has provided 50 percent of the feasibility study that was completed in December 2001, and sufficient cash and credits to satisfy the requirements of Section 205 for plans and specifications and construction.

Operations and results during fiscal year. Project construction was initiated in the spring of 2003 and was completed in November 2003. A joint Dedication/ Activation Ceremony was held in January 2004 at the County's Emergency Operations Center. The final project implementation cost was approximately $505,700 including study, design, construction and real estate acquisition.

36. MOOREFIELD, WV

Location. Moorefield, WV, is located at the junction of the South Fork (Moorefield River) of the South Branch of the Potomac River, 57 miles upstream from the mouth of the South Branch of the Potomac River, and 233 miles upstream from Washington, DC. (See Geological Survey Quadrangle sheets, Moorefield, WV).

Existing project. Provides for a flood warning system, 21,600 feet of earth levee, 1,360 linear feet of floodwall, highway bridge replacement of one span of a railroad bridge, environmental mitigation, and appurtenant project features such as ramps, closures, riprap, relocations, and ponding areas for local drainage. The current estimated total project cost is $26,925,000 which includes a future inflation allowance through project completion.

Project cooperation. The Town of Moorefield is the sponsor for the project. The Project Cooperation Agreement was signed May 12, 1994. The local sponsor is required to: provide lands, easements, rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay 5% of the cost allocated to flood control; and bear all costs of operations, maintenance and replacement of flood control; and facilities after construction. (The cash contribution is deemed satisfied in consideration of the transfer of Grandview State Park to the Federal Government.) The Water Resources Development Act of 1999 waived the non-Federal requirement to pay its unpaid balance on the project.

Operations and results during fiscal year. New Work: The District has begun monitoring of a mechanically stabilized earthen wall that appears to be shifting.

37. LACKAWANNA RIVER, OLYPHANT, PA

Location. The project is located along the Lackawanna River in Lackawanna County, Pennsylvania. (See Geological Survey quadrangle sheets, Olyphant, PA)

Existing project. The authorized project will provide 100-year level of protection and will include a combination of approximately 5,200 feet of levee and floodwall, a closure structure, interior drainage structures, and an upgraded flood forecast and warning system. Since authorized by WRDA 1992, the project has undergone a number of changes in scope and cost which have increased the project cost above the limitation prescribed in Section 902 of WRDA 1986. As a result of these changes, the project cost has increased from $11,354,000 (as authorized in 1992) to an estimated $20,500,000. The levee and floodwall portion of the project was awarded in January 2002 and was completed in the fall 2003. The Energy and Water Development Appropriations Act of 2004, increased the project authorization to $23,000,000. Prior to the reauthorization, the Corps was unable to award the second phase of construction (Garfield Avenue storm water drainage system) because doing so would have exceeded the maximum funding authorization for the project ($17,600,000). The drainage system is needed to prevent internal flooding caused by construction of the levee and floodwall.

Local cooperation. The Borough of Olyphant is the sponsor for the project. The local sponsor is required to: provide lands, easements, and rights-of-way; modify or relocated buildings, utilities, roads, bridges, and other facilities; pay 5% of the costs allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities after construction.

Operations and results during fiscal year. New Work: The levee and floodwall have been completed. Additional funds are needed for the second phase of construction along Garfield Avenue.

38. RAYSTOWN LAKE, RAYSTOWN BRANCH, JUNIATA RIVER, PA

Location. Dam site is on Raystown Branch, about 5.5 miles upstream from its confluence with Juniata River. Project is about 10 miles south of Huntingdon, PA. (See Geological Survey Quadrangle sheets, Huntingdon, Mt. Union, Broad Top and Everett, PA.)

Existing project. The rock and earthfill dam rises 225 feet above streambed with a gated concrete spillway and auxiliary spillway in the right abutment. The reservoir has a storage capacity of 762,000 acre-feet, of which 248,000 acre-feet are for flood control, 476,000 acre-feet for recreation and water quality control, and the balance for sediment reserve. At full flood control pool elevation, the reservoir would inundate 10,800 acres and extend 34 miles upstream. Recreation facilities are provided for boating, fishing, camping, swimming, hunting, hiking, and picnicking. Federal cost for new work was $77,408,700 of which $46,120,931 was for construction and $31,287,769 was for lands and damages including relocations. Construction of a private hydroelectric plant at Raystown Lake was completed May 1988.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued. Construction of facilities and structures at the Juniata College field station has been completed. Dedication of new facilities was held on October 18, 2003.

39. LACKAWANNA RIVER, SCRANTON, PA

Location. The project is located along the Lackawanna River in the northeastern portion of the Commonwealth of Pennsylvania in Lackawanna County. (See Geological Survey Quadrangle sheets, Scranton, PA.)

Existing project. The Albright Ave. portion of the project provides for 6,800 feet of earth levee, 700 feet of concrete floodwall, 3 closure structures, interior drainage facilities, 2,700 feet of gabion slope protection, an improved flood warning system, removal of a railroad bridge, access ramps, and associated cultural mitigation. The Energy and Water Development Appropriations Act of 1999 provided funding to construct 100-year level flood protection for two additional communities: the Green Ridge Section and the Plot neighborhood. The current estimated total

project cost is $56,025,000 which includes $21,500,000 for the Albright Ave. portion, $14,672,000 for the Plot portion and $19,853,000 for the Green Ridge portion of the project.

Local cooperation. The City of Scranton is the sponsor for the project. The local sponsor is required to: provide lands, easements and rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay a minimum of 5% of the cost allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities after construction.

Operations and results during fiscal year. New Work: The Corps completed construction on the Albright Ave. portion of the project in September 2003. Design continued on the Plot and Green Ridge portions of the project. The overall project is scheduled to be completed in September 2006.

40. OCEAN PINES, WORCESTER COUNTY, MD

Location. Ocean Pines is a large residential development located in eastern Worcester County along the mainland shoreline of Isle of Wight Bay. The project site is located on a peninsula formed by Herring and Turville Creeks.

Existing project. For detailed project description, see Annual Report for FY01.

Local cooperation. The PCA was executed in January of 2001. The local sponsor is Worcester County. All local requirements have been fulfilled.

Operations and results during fiscal year. Project construction was completed in October 2001, more than two months ahead of schedule. Construction was completed for a total of $851,000. Activities during the first three quarters of FY02 involved monitoring for stability, appropriate tidal inundation, and vegetative success.

A Dedication/Memorial Ceremony was held in May. In addition to the District Engineer, more than 100 citizens and numerous local, state and federal elected officials and agency representatives attended. All Congressional interests were represented. The completed marsh was dedicated to the memory of A. J. Corts, an employee of the Baltimore District who served as Construction Manager for the project. Mr. Corts died suddenly on the day the project was completed.

41. WILLIAMSPORT, PA - HAGERMAN'S FLUME

Location. Williamsport, the county seat of Lycoming County, PA, is located on the left bank of the West Branch of the Susquehanna River, 40 miles above its mouth. (See U.S. Geological Survey Quadrangle sheets, "Trout Run and Williamsport, PA.")

Existing project. The plan of improvement provides for the construction of a system of levees and concrete floodwalls and appurtenant structures, consisting of the following features: about 26,200 feet of earth levee and 3,060 feet of concrete floodwall along the left bank of the West Branch of the Susquehanna River, extending from high ground near Sheridan Street, generally parallel to and on the right bank of Millers Run to the Susquehanna River, thence extending upstream along the left bank of the river and Lycoming Creek; about 29,900 feet of earth levee and 860 feet of concrete floodwall along the left bank of the West Branch of the Susquehanna River, extending from high ground and Bottle Run generally parallel to and on the right bank of Lycoming Creek to the Susquehanna River, thence extending upstream along the left bank of the river to Carothers Lane, thence to high ground along the Pennsylvania Railroad; about 11,400 feet of earth levee and 880 feet of concrete floodwall along the right bank of the West Branch of the Susquehanna River in South Williamsport, extending from high ground at Central Avenue and Charles Street, along Charles Street to the river, thence upstream along the river to high ground at Maynard Street; a reinforced concrete pressure culvert about 1,390 feet along and a flume 470 feet along to provide for control of Hagerman's Run; 10 pumping stations for the disposal of interior drainage; and appurtenant closure and drainage structures. The improvement provides protection for the City of Williamsport and the Borough of South Williamsport and part of Old Lycoming Township against a flood discharge equal to the maximum flood of record, which occurred in March 1936. The Federal costs of new work for the completed project are $12,964,893, which includes $1,887 emergency relief funds. The estimated local cost of lands and damages and utility relocations, revised in 1955, is $2,158,500. The Energy and Water Development Appropriations Act of 1998 directed the Corps to use $225,000 to construct necessary repairs to the flume and conduit for flood control at the Hagerman's Run, Williamsport, Pennsylvania flood control project.

Local cooperation. Fully complied with on the completed work.

Operations and results during fiscal year. Construction continued on the repairs necessary to the flume and conduit for flood control at Hagerman's Run.

42. WEST VIRGINIA AND PENNSYLVANIA FLOOD CONTROL

Location. The projects within the Baltimore District are located in the City of Altoona, Logan Township and

Allegheny Township; Carbon Township; Coalmont Borough; the Borough of Everett; and Bedford County.

Existing project. Section 581 of the Water Resources Development Act of 1996, as amended, provides for design and construction of structural and non-structual flood control, streambank protection, stormwater management and channel clearing and modificaton measures in the Lower Allegheny and Lower Monongahela (Pittsburgh District) and West Branch Susquehanna River and Juniata River basins, Pennsylvania at a level of production that is sufficient to prevent any future losses to communities in the basins from flooding such as occurred in January 1996, but no less than a 100-year level of flood protection with respect to measures that incorporate levees or floodwalls. The current estimated total project cost is $16,532,000 which includes a future inflation allowance through project completion.

Local cooperation. Local sponsors identified to date include the Borough of Everett, Logan Township/Altoona, Coalmont Borough and Carbon Township. The sponsors are required to: provide lands, easements, and rights-of-way; modify or relocate utilities, roads, bridges, and other facilities; provide cash contributions such that their total share, including LERRDS, is a minimum of 25 percent; and bear all costs of operation and maintenance.

Operations and results during fiscal year. Changes in the cost sharing of these projects in January 2003 has slowed progress. Non-Federal Sponsors for the Coalbank Run, Shoups Run and Bloody Run projects are still interested in moving forward with their projects but are experiencing difficulties coming up with their matching funds.

43. SOUTHERN NEW YORK FLOOD CONTROL PROJECTS

Authorized plan provides for construction of reservoirs and related flood control works for protections are located in the upper watershed of the Susquehanna River to and including the Chemung River.

43A. ADDISON, NY

Location. At confluence of Tuscarora Creek and Canisteo River in the City of Addison, NY. (See Geological Survey map for Addison, NY.)

Existing project. Provides for construction of about 3,100 feet of earth levee and 700 feet of concrete flood wall on the right bank of the Canisteo River, extending from high ground on Steuben Street near the Baltimore & Ohio Railroad to the mouth of Tuscarora Creek; removal of existing dam, mill, and raceway from the channel; construction of about 2,200 feet of earth levee on the left bank of Tuscarora Creek, extending from Tuscarora Street to Canisteo River; construction of 4,600 feet of earth levee on the right bank of Tuscarora Creek, extending from high ground at the southwest edge of the village to high ground at the southeast edge of the village; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43B. ALMOND LAKE, NY

Location. Dam is located two miles upstream from Hornell, NY, on Canacadea Creek, a tributary of the Canisteo River. (See Geological Survey map for Hornell, NY.)

Existing project. The dam is an earthfill structure, 1,260 feet long rising 90 feet above the streambed, with a concrete spillway and a gated outlet conduit in the left abutment. The outlet works consist of three 5-foot by 10-foot service gates and three emergency gates of the same size. The reservoir has a storage capacity of 14,640 acre-feet at spillway crest. The project controls a drainage area of 56 square miles, 36 percent of the watershed of the Canisteo River upstream from Hornell, NY. Recreation facilities include a boat-launching ramp and dock, bathing beach, picnic area, and tent and trailer camping area.

Local cooperation. None required. Local interests have developed recreational facilities at the lake in conjunction with the Federal Government. These facilities are operated and maintained by the Steuben County Board of Supervisors.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43C. ARKPORT DAM, NY

Location. Dam is located five miles upstream from Hornell, NY, on the Canisteo River, a tributary of the Chemung River which flows into the Susquehanna River. (See Geological Survey map for Arkport, NY.)

Existing project. The dam is an earthfill structure, 1,200 feet long, exclusive of spillway, rises 113 feet above the streambed, with a concrete spillway and an ungated outlet in the right abutment. The outlet structure consists of an 8-foot diameter reinforced concrete lined conduit, 660 feet long. A cast iron nozzle placed in the lower end of the conduit, reduced the outlet size to 4 feet 4 inches. The reservoir has a storage capacity of 7,950 acre-feet at spillway crest. The project controls a drainage area of 31 square miles, 20 percent of the watershed of the Canisteo River upstream from Hornell.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43D. AVOCA, NY

Location. On the Cohocton River at the Village of Avoca, NY, about 30 miles upstream from the confluence of the Cohocton and Chemung Rivers. (See Geological Survey map for Avoca, NY.)

Existing project. Provides for improvement and realignment of about 8,300 feet of Cohocton River channel, extending from above the Erie Railroad to below the junction of Main Street and U.S. Highway 15; construction of about 8,500 feet of earth levee on left bank of the Cohocton River, extending from high ground above Alexander Avenue to about 1,300 feet below the junction of Main Street and U.S. Highway 15; and 4,500 feet of earth levee on the right bank of Salmon Creek, extending from high ground above Alexander Avenue to the Erie Railroad; a new highway bridge for U.S. Highway 15 over Cohocton River, raising of the Erie Railroad bridge 4 feet; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43E. BINGHAMTON, NY

Location. At the confluence of the Chenango and Susquehanna Rivers in the City of Binghamton, NY. (See Geological Survey map for Binghamton, NY.)

Existing project. Provides for construction of earth levees, concrete flood walls, and appurtenant drainage structures, consisting of about 850 feet of channel excavation and about 1,375 feet of earth levee along Phelps Creek, Town of Port Dickinson; new concrete wall on the right bank of the Chenango River, extending downstream from high ground near the city limits to an existing flood wall below DeForest Street, a distance of about 520 feet; about 150 feet of concrete wall just below Cutler Dam; about 180 feet of concrete wall at the pumphouse near McDonald Avenue; raising existing earth levees on the right bank of Chenango River, extending from Cutler Dam downstream for about 1,220 feet; about 2,915 feet of earth levee on the left bank of Chenango River north of the city limits in the Village of Port Dickinson, extending from Church Street to high ground just north of the city line; about 3,900 feet of earth levee on the left bank of Chenango River, extending from DeForest Street to Cutler Dam; new concrete flood walls and riverbank revetment for about 5,570 feet extending on the left bank of Chenango River from Cutler Dam to the junction with the Susquehanna River; about 540 feet of new concrete flood wall and raising about 1,085 feet of concrete flood wall on the right bank of the Susquehanna River, extending from the Delaware, Lackawanna & Western Railroad downstream to Tompkins Street Bridge; about 1,940 feet of earth levee; about 1,940 feet of concrete flood wall and capping about 125 feet of concrete flood wall, on the right bank of the Susquehanna River from Stuyvesent Street to mouth of Chenango River; about 8,380 feet of earth levee, about 2,180 feet of new concrete flood wall on the left bank of the Susquehanna River extending from Pierce Creek to high ground at State Highway 17, a debris dam and flume between Corbett and Hotchkiss Streets and a concrete pressure conduit, 1,060 feet long to carry flow of Park Creek from Vestal Avenue to the Susquehanna River; about 665 feet of levee extending from the Erie Railroad to high ground along the right bank of Chamberlain Creek near the mouth; closure structures at Erie Railroad and at Court Street; a weir, a drop structure, and about 1,800 feet of earth levee, about 2,235 feet of channel excavation, about 645 feet of channel paving and raising, about 470 feet of existing concrete flood wall, and about 200 feet of new concrete flood wall for improvement of Pierce Creek from its mouth to about 1,000 feet about Conklin Avenue; and appurtenant drainage structures. Improvement, supplemented by authorized flood control dams above the area, will provide protection for the City of Binghamton against a flood discharge about 20 percent greater than the maximum flood of record, which occurred in July 1935 on the Chenango River and in March 1936 on the Susquehanna River.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43F. CANISTEO, NY

Location. On Purdy and Bonnets Creeks in the Town of Canisteo, NY, situated along the south side of the Canisteo River, at the confluence of Bonnets Creek and in the Canisteo River. (See Geological Survey map for Canisteo, NY.)

Existing project. Provides for construction of about 8,000 feet of earth levees on the right bank of the Canisteo River, extending from high ground 1,570 feet west of State Highway Route 21 above the Town to a point at the intersection of Ordway Lane and East Main Street; about 7,400 feet of earth levee on the left bank of Purdy and Bennetts Creeks, extending from the Main Street Bridge to high ground above Greenwood Street 1,000 feet of earth levee on the right bank of Bennetts Creek extending upstream from the Main Street Bridge; a concrete check dam with wing levees from Greenwood Street; a new highway bridge at Greenwood

Street; channel excavation in Bennetts and Purdy Creeks; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43G. CORNING, NY

Location. On the Chemung River in the City of Corning, NY, about 44 miles upstream from the confluence of Chemung River and North Branch of Susquehanna River. (See Geological Survey map for Corning, NY.)

Existing project. Plan of improvement provides for construction of a pumping station, earth levees, and concrete flood walls, consisting of about 4,300 feet of earth levee, enlargement of about 8,610 feet of existing earth levee and about 3,100 feet of concrete flood wall on the right bank of the Chemung River, extending from the Erie Railroad Bridge to high ground at Park Avenue below the City; about 200 feet of concrete flood walls, about 2,500 feet of earth levees and enlargement of about 11,500 feet of existing earth levee on the left bank of the Chemung and Cohocton Rivers, extending from the Erie Railroad Bridge over Cohocton River to the mouth of Post Creek; about 2,500 feet of earth levee and enlargement of about 4,700 feet of existing earth levee on the right bank of Post Creek; about 2,500 feet of earth levee and enlargement of about 4,700 feet of existing earth levee on the right bank of Post Creek from its mouth to Watkins Street; realignment of about 3,000 feet of channel, about 8,800 feet of earth levee, about 3,000 feet of channel excavation, a pressure conduit about 400 feet long, a drop structure and a weir for improvement of Cutler Creek, extending from its mouth to high ground at Deckertown Road and Hornby Road; and appurtenant drainage structures. Flood protection on Monkey Run was authorized by the Flood Control Act of 1950. Plan of improvement provides for construction of 2,010 feet of open flume, 2320 feet of pressure conduit storm sewers, and appurtenant facilities between the existing improved channel above Sixth Street and the Chemung River at a point immediately east of Pine Street East. Modified improvement will provide protection for the City of Corning against a flood discharge in Chemung River approximately equal to the maximum flood of record, which occurred in May 1945, and on tributary streams against floods of greater magnitude than known to date.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43H. EAST SIDNEY LAKE, NY

Location. Dam is located near East Sidney, NY, on the Ouleout Creek, about five miles above the confluence of the creek with the Susquehanna River. (See Geological Survey map for Franklin, NY.)

Existing project. The dam is an earthfill and concrete structure, 2,010 feet long, including spillway, rises 130 feet above the streambed and consists of a concrete gravity-type section with a compacted earth-dike section at the right abutment. The outlet works consist of five rectangular conduits each 3.5 feet b 5.85 feet and 105 feet long. The reservoir has a storage capacity of 33,500 acre-feet at spillway crest. The project controls a drainage area of 102 square miles which is 93 percent of the Ouleout Creek drainage area, and 5 percent of the watershed of the Susquehanna River upstream from Binghamton, NY, exclusive of the separately controlled Chenango River. Recreation facilities include a bathing beach, picnic and camping areas, and boat-launching and docking facilities.

Local cooperation. None required. The Town of Sidney, NY, cooperated in the development of recreation facilities and operations and maintains all the facilities with the exception of the recreational pool, which is the responsibility of the Federal Government.

Operations and results during fiscal year. Maintenance: Normal operations and maintenance of the project continued.

43I. ELMIRA, NY

Location. On the Chemung River in the City of Elmira, NY, about 27 miles stream from the confluence of the Chemung River and North Branch of Susquehanna River (See Geological Survey map for Elmira, NY).

Existing project. Provides for about 17,700 feet of earth levees, and about 4,100 feet of concrete flood wall on the right bank of the Chemung River, extending from South Hoffman Street to a point below the city near the upper end of Big Island; about 12,100 feet of earth levee and about 6,300 feet of concrete wall on the left bank of the Chemung River extending from Durland Avenue to the Delaware, Lackawanna & Western Railroad at the mouth of Newton Creek; about 10,000 feet of earth levee on right bank of Newton Creek, extending from about the intersection of Delaware, Lackawanna & Western Railroad and East Church Street to high ground near intersection of Sullivan and Warren Streets; about 4,300 feet of earth levee on the right bank of Divan Creek; about 2,000 feet of concrete conduit enclosing Hoffman Brook from West Second Street to the Chemung River; clearing islands and riverbanks of trees and brush for about 3.5 miles in the Chemung River; about 14,300 feet of earth levee on the left bank of Seely Creek, extending from the Erie Railroad to high ground approximately 1,000 feet northwest of the intersection of South Broadway

and Pennsylvania Avenue; a pumping plant for disposal of interior drainage; an interceptor sewer about 6,000 feet long varying in size from 48 to 96 inches in diameter; and appurtenant structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43J. HORNELL, NY

Location. On the Canisteo River in the City of Hornell, NY, about 42 miles upstream from the confluence of the Canisteo and Tioga Rivers. (See Geological Survey map for Canisteo, NY.)

Existing project. Provides for channel realignment and earth levees, concrete flood walls, and check dams consisting of: realignment of about 4,600 feet of the Canisteo River channel, and about 5,800 feet of earth levee on its right bank, extending from Seneca Street upstream to the junction of the Pittsburgh, Shawmut & Northern Railroad and the Erie Railroad; about 4,500 feet of earth levee, extending on both sides of Seneca Street from the Canisteo River to Wrightman Avenue and the junction of Cleveland Avenue and Bethesda Drive; about 7,200 feet of earth levee, about 2,500 feet of concrete flood wall, and raising about 1,500 feet of existing concrete flood wall, on the right bank of the Canisteo River, and about 12,000 feet of channel improvement, extending from Seneca Street to the Erie Railroad; about 2,500 feet of earth levee, about 2,100 feet of concrete flood wall on the left bank of the Canisteo River extending from Seneca Street to the Erie Railroad; about 2,500 feet of earth levee, about 2,100 feet of concrete flood wall on the left bank of the Canisteo River extending from a point opposite Walnut Street to the Erie Railroad; a ring-earth levee about 2,800 feet long around the sewage-disposal plant on the left bank of the Canisteo River; about 4,500 feet of realignment and improvement of the Canisteo River Channel with about 4,500 feet of earth levee on its right bank extending from Cedar Street downstream to about 1,400 feet about East Avenue; about 2,400 feet of channel paving, 1,400 feet of earth levee, raising about 1,900 feet of concrete flood wall, and construction of one check dam on Canacadea Creek; about 1,600 feet of channel paving and construction of three check dams on Chauncey Run with about 300 feet of new wall and about 300 feet of capping; a weir, a check dam, 3,030 feet of channel paving, 4,800 feet of flood walls and levees, and related work on existing walls, on Crosby Creek; removal of 6 bridges, erection of 4 bridges, miscellaneous bridge structures, and 3 drop structures; and appurtenant drainage structures and small stream control works. Improvement, supplemented by Arkport and Almond Reservoirs above the area, provides protection for the City of Hornell against a flood discharge approximately double the maximum flood of record, which occurred in July 1935.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43K. LISLE, NY

Location. On the Tioughnioga River in the Village of Lisle, NY, about 12 miles upstream from the confluence of the Tioughnioga and Chenango Rivers. (See Geological Survey map for Lisle, NY.)

Existing project. Provides for channel realignment and construction of earth levees and concrete flood walls, consisting of: relocation of about 3,000 feet of Dudley Creek Channel, extending from 1,200 feet west of the intersection of Cortland and Main Streets to the confluence with Tioughnioga River; realignment of some 5,700 feet of Tioughnioga River Channel east of the Village; about 4,150 feet of earth levee and 970 feet of concrete wall on the right bank of Dudley Creek and Tioughnioga River; realignment of some 5,700 feet of Tioughnioga Street to the railroad crossing on River Street; raising about 1,860 feet of the Delaware, Lackawanna & Western single track railroad over the levee; relocation of about 1,600 feet of Cortland Street; a new bridge over relocated Dudley Creek; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43L. OXFORD, NY

Location. On the Chenango River in the Village of Oxford, NY, about 40 miles upstream from the confluence of the Chenango and Susquehanna Rivers. (See Geological Survey map for Oxford, NY.)

Existing project. Provides for earth levees and clearing of Chenango River Channel, consisting of about 2,100 feet of earth levees on the left bank of the Chenango River, extending from high ground near Cemetery Drive and running mostly along the railroad to high ground near Main Street; removal of dam and island below Main Street; raising the Delaware, Lackawanna & Western Railroad over the levee; and appurtenant closure and drainage structures. Improvement provides protection for the Village of Oxford on the left bank against a flood discharge substantially larger than the maximum flood of record, which occurred in July 1935.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43M. WHITNEY POINT LAKE, NY

Location. Dam is located near Whitney Point, NY, on the Otselic River about 0.7 mile upstream from its confluence with Tioughnioga River. (See Geological Survey map for Whitney Point and Willet, NY.)

Existing project. The dam is an earthfill structure, 4,900 feet long, exclusive of a spillway, rises 95 feet above the streambed, with a concrete spillway and gated outlet in the left abutment. The outlet works consist of three 5-foot by 10-foot gates and one emergency gate of the same size. The reservoir has a storage capacity of 86,440 acre-feet at spillway crest. The project controls a drainage area of 255 square miles, the entire watershed of Otselic River, or 16 percent of the Chenango River watershed upstream from Binghamton, NY. Recreation facilities, constructed in cooperation with local interests, provide for swimming, picnicking, camping, boating, fishing, and hunting.

Local cooperation. None required. Local interests operate and maintain all of the recreation facilities.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

43N. WHITNEY POINT VILLAGE, NY

Location. On the Tioughnioga River at the confluence of the Tioughnioga and Otselic Rivers, tributaries of the Susquehanna River. (See Geological Survey map for Whitney Point, NY.)

Existing project. Provides for channel realignment and earth levees, consisting of realignment of about 1,800 feet of Tioughnioga River Channel, above the confluence with Otselic River; about 7,100 feet of earth levee along the right bank of the Tioughnioga River, extending from high ground on Main Street above the Village to Collins Street just below the Village; and appurtenant drainage structures.

Local cooperation. Fully met.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

44. STILLWATER LAKE, LACKAWANNA RIVER, PA

Location. Dam is on the Lackawanna River, 39 miles from the mouth of the stream and about 4 miles upstream from Forest City, Susquehanna County, PA (See Geological Survey Quadrangle sheet, Honesdale, PA.)

Existing project. Dam is earthfill type, rising 77 feet above the streambed, with a controlled outlet conduit and side channel spillway in the left abutment. Reservoir capacity is 12,000 acre-feet, of which 11,600 acre-feet is flood control storage and the remainder is used to maintain the existing water supply reservoir for Forest City, PA, at this site. Reservoir area is 422 acres, and the pool extends about 2.1 miles upstream. Reservoir controls 52 percent of the watershed above Carbondale, 26 percent above Olyphant, and 17 percent above Scranton. Federal cost of new work, completed in 1965, was $5,725,700 of which $4,500,500 was for construction and $1,225,200 was for lands and damages.

Local cooperation. None required. Section 2, Flood Control Act of June 28, 1938, applies.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

45. SUSQUEHANNA RIVER FLOOD CONTROL PROJECTS, NY AND PA

Plan of improvement authorized by the 1958 Flood Control Act provides for construction of Cowanesque Lake, PA, Tioga-Hammond Lakes, PA, local protection works at Elkland, PA, and Nichols, NY, and channel improvements at Cortland, NY. This project plan supplemented the comprehensive flood control program for Southern New York and Northern Pennsylvania which included the Southern New York flood control project and Stillwater, Genegantslet, and South Plymouth Reservoirs.

45A. COWANESQUE LAKE, PA

Location. Dam is on the Cowanesque River about 2.2 miles above its confluence with Tioga River at Lawrenceville, PA. (See Geological Survey map for Tioga, PA.)

Existing project. The project provides for an earthfill dam 3,100 feet long and rising 151 feet above the streambed, an uncontrolled spillway in the right abutment, a gated conduit in the Valley floor, and flood control storage is 82,000 acre-feet. Relocation of the Town of Nelson to a new townsite was authorized by Section 121 of the Water Resources Development Act of 1976. The Federal cost of this new work was $106,030,700 of which $61,743,600 was for construction and $44,287,100 was for lands and damages and relocations (which includes $5,755,000 for relocation of the Town of Nelson). Within the discretionary authority of the Chief of Engineers the project was modified in March 1983 in accordance with the Water Supply Act of 1958, as amended, and the Flood Control Act of 1944, as amended. The modification provides for reallocating 25,600 acre-feet of present flood control storage for water supply storage

by raising the permanent pool from elevation 1,045 to 1,080 mean sea level. Other features include modifying the existing intake tower and two access ramps, stabilizing the reservoir slope near the relocated Town of Nelson, replacing existing day-use recreation facilities, and expanding both day-and overnight-use recreation facilities to accommodate an expected increase in annual visitation due to the larger pool. Estimated cost (October 1991) of the modification is $55,198,00 of which $1,257,00 is Federal (for expanded recreation facilities) and $53,941,000 is non-Federal (which includes $39,414,000 for reimbursement of the cost of existing flood control storage reallocation to water supply storage, $13,270,000 cash contribution for the water supply modification, and $1,257,000 cash contribution for expanded recreation facilities.)

Local cooperation. The Water Resources Development Act of 1976, which authorized relocation of the Town of Nelson, provides that before the Secretary of the Army acquires any real estate property for the new townsite, appropriate non-Federal interests shall furnish binding contractual commitments that all lots in the new townsite will be either occupied when available, replacements for open space and vacant lots in the existing town, or will be purchased by non-Federal interests at the fair market value. The required contractual agreement for local cooperation was executed with Nelson Township on August 25, 1977. The March 1983 project modification (discussed above) requires non-Federal interests repay 100 percent of the investment cost of project modifications allocated to water supply, to terrestrial wildlife habitat mitigation, and to in-kind replacement recreation, plus the allocated share of the project's original cost (escalated to current price levels). Additionally, they are required to pay annual costs of operation, maintenance, and major replacements allocated to water supply and to provide 50 percent of the cost of expanded recreation facilities, as well as, all operation, maintenance, and replacement costs for the expanded facilities. Water supply and recreation contracts were executed by the Assistant Secretary of the Army (Civil Works) and the Susquehanna River Basin Commission on June 30, 1986.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

45B. TIOGA-HAMMOND LAKES, PA

Location. The dams are located in Tioga County, PA, upstream from the confluence of the Tioga River and Crooked Creek. Tioga Dam is located on the Tioga River and Hammond Dam on Crooked Creek, approximately opposite the Tioga damsite, about 3.3 miles above its mouth and less than one mile from the Village of Brooklyn. (See Geological Survey map for Tioga, PA.)

Existing project. Tioga Dam is 2,600 feet long, rising 140 feet above the streambed, with a controlled outlet conduit. Hammond Dam is 5,900 feet long, and has a maximum height of 121.5 feet above the streambed, with a concrete spillway. Both dams are of earth and rockfill construction. The Tioga-Hammond Lakes project controls a total drainage area of 402 square miles, with Tioga Dam controlling 280 square miles of the Tioga River Basin and Hammond Dam controlling 122 square miles of the Crooked Creek Basin. Recreation facilities are provided for swimming, camping, picnicking, boating, and fishing. Federal cost of completed work was $185,620,000 of which $125,029,000 is for completed construction and $60,591,000 is for lands and damages and relocations. Estimated Federal cost (October 1988) of Mill Creek recreation facilities (inactive) is $7,500,000.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued. A Lease was signed with the Mill Cove Association for the management and operation of 188 acres (next to Tioga Lake) for education, recreation and research.

46. WEST BRANCH OF SUSQUEHANNA RIVER, PA

A system of three flood control reservoirs, in the headwaters of the West Branch Susquehanna River, PA, are known as Curwensville, Alvin R. Bush (formerly known as Kettle Creek), and Foster Joseph Sayers (formerly known as Blanchard).

In accordance with the terms of local cooperation, the Commonwealth of Pennsylvania furnished assurances that it will coordinate operation of George B. Stevenson Reservoir (formerly known as First Fork Reservoir) with operation of Curwensville, Alvin R. Bush, and Foster Joseph Sayers Reservoirs to secure optimum flood control benefits from system operation. George B. Stevenson Reservoir on the First Fork Sinnemahoning Creek in Cameron and Potter Counties, PA, was constructed by the Commonwealth of Pennsylvania at a first cost of $12,240,000 and an estimated $30,000 annually for operation and maintenance.

46A. ALVIN R. BUSH DAM, PA

Location. Alvin R. Bush (formerly Kettle Creek Dam) is located on Kettle Creek about 8.4 miles above the mouth and 15 miles upstream from Renovo, PA. (See Geological Survey map for Keating, PA.)

Existing project. Dam is an earthfill structure, about 1,350 feet long, rises 165 feet above the streambed,

with an uncontrolled spillway located in rock adjacent to the right abutment, and has a horseshoe-shaped outlet tunnel with 3 service gates. The reservoir has a storage capacity of 75,000 acre-feet at spillway crest. The project controls a drainage area of 226 square miles or about 92 percent of the Kettle Creek watershed. Recreation facilities are provided for camping, fishing, boating, picnicking, hiking, winter sports, hunting, and swimming by the State of Pennsylvania at Kettle Creek State Park.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

46B. CURWENSVILLE LAKE, PA

Location. Dam is on the West Branch of Susquehanna River approximately 2.5 miles upstream from Curwensville, Clearfield County, PA. (See Geological Survey map for Curwensville, PA.)

Existing project. Within the discretionary authority of the Chief of Engineers, the project was modified in September 1992, in accordance with the Water Supply Act of 1958, as amended. The modification provides for reallocating an estimated 5,360 acre-feet of storage from conservation to water supply. The reallocation project includes a year-round normal pool and modifications to the existing recreation area. Estimated cost of the modification is $1.7 million which is being funded entirely by the local sponsor, the Susquehanna River Basin Commission. In addition, the sponsor will reimburse the Federal Government about $4.5 million for part of the original project cost.

Local cooperation. The 1992 project modification requires non-Federal interests to pay 100 percent of costs allocated to water supply plus the allocated share of the original project cost (escalated to current price levels). Additionally, they must pay annual costs of operation, maintenance, and major replacement allocated to water supply. A water supply contract was executed on September 30, 1994.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

46C. FOSTER JOSEPH SAYERS DAM, PA

Location. Dam is located on Bald Eagle Creek in Centre County, PA, about one mile upstream from Blanchard and about 14 miles above the confluence of Bald Eagle Creek with the West Branch Susquehanna River at Lock Haven, PA. (See Geological Survey map for Howard, PA.)

Existing project. Dam is an earthfill structure, about 6,835 feet long, rises 100 feet above the streambed, and has an open-cut concrete chute and uncontrolled concrete weir 600 feet wide located in rock in a saddle adjacent to the left abutment. The outlet works, located in the left abutment, consist of a 15-foot diameter circular outlet conduit with two hydraulically-operated wheel gates 7 feet wide and 15 feet high. The reservoir has a storage capacity of 99,000 acre-feet at spillway crest. The project controls a drainage area of 339 square miles or 88 percent of the drainage area above Beech Creek and 43 percent of the Bald Eagle Creek drainage area. Recreation facilities are provided for boating, camping, fishing, picnicking, hunting, swimming, hiking, and winter sports by the State of Pennsylvania at Bald Eagle State Park.

Local cooperation. None required.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

47. WYOMING VALLEY, PA (LEVEE RAISING)

Location. The Wyoming Valley flood control projects are located in Northeastern Pennsylvania on the Susquehanna River in Luzerne County and are the four contiguous existing Federal flood control projects at Plymouth, Kingston-Edwardsville, Swoyersville-Forty Fort, and Wilkes-Barre/Hanover Township, which together function as a flood control system within the Wyoming Valley.

Existing project. The proposed modification provides for raising existing levees and floodwalls between 3 and 5 feet, structural, mechanical and electrical modifications to pump stations, modifying closure structures, relocating utilities and providing some new floodwalls and levees to maintain the integrity of the existing flood control system. The proposed project also includes a plan to reduce project-related adverse impacts. The current estimated total project is $175,000,000 which includes a future inflation allowance through project completion.

Local cooperation. The Luzerne County Flood Protection Authority is the sponsor for the project. The local sponsor is required to: provide lands, easements and rights-of-way; modify or relocate buildings, utilities, roads, bridges, and other facilities; pay a minimum of 5% of costs allocated to flood control and pay 50% of costs allocated to recreation; and bear all costs of operations, maintenance and replacement of flood control and recreation facilities after construction.

Operations and results during fiscal year. New Work: Work continued on the Mechanical and Electrical Upgrades to the Stormwater Pump Stations, the construction contracts for the Wilkes-Barre/Hanover Township reach, and the Plymouth levee raising

contract. Engineering and design work continues as well as feasibility analysis of possible additions to the overall project.

48. YORK, INDIAN ROCK DAM, PA

Location. On Codorus Creek 10 miles above its confluence with the Susquehanna River. Codorus Creek has tributary branches in York County in the south and central parts of Pennsylvania. (See Geological Survey Quadrangle sheets for York and Hanover, PA.)

Existing project. Indian Rock Dam is an earth and rockfill dam about 1,000 feet long at the top, rising 83 feet above the streambed, with a reservoir providing for control storage of 28,000 acre-feet. The dam is on the main branch of Codorus Creek about 3 miles above York. Outlet works are in the right abutment, and the uncontrolled spillway is on the right bank. The reservoir will control the entire drainage area of the main branch of Codorus Creek and 41 percent of the drainage area above York. Improvements in Codorus Creek in the vicinity of and through the City of York provide for 22,969 feet of channel extending from 300 feet above Richland Avenue to a point downstream from the Pennsylvania Railroad crossing known as Black Bridge. Improvements, which will increase channel capacity to 24,000 cubic feet per second, include widening and deepening the channel, bank protection, removal of York Roller Mill Dam, and a low water channel about 3,900 feet long in the vicinity of York Roller Mill Dam. Cost of new work for the completed project was $5,061,167, of which $4,566,446 (regular funds) and $11,588 (emergency relief funds) were for construction and $483,133 (regular funds) was for lands and damages.

Local cooperation. Section 2, Flood Control Act of June 28,1938, applies.

Operations and results during fiscal year. Maintenance: Normal operation and maintenance of the project continued.

49. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Projects in New York, Pennsylvania, Maryland, District of Columbia, and Virginia were inspected during the period by hired labor. See table 4-I.

50. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

Operations and results during fiscal year. The operation of George B. Stevenson Dam, PA, was coordinated with the operation of Alvin R. Bush, Curwensville, and Foster Joseph Sayers Dams in the West Branch Susquehanna River Basin in order to secure optimum flood control benefits from the system operation. Costs during the period were $2,077,920.

Supplemental instructions for the operation of Savage River Dam, MD, were provided, during periods of high water, to insure maximum protection for downstream localities. Costs during the period were $87,686.

51. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Cost for the period was $356,090 for the Disaster Preparedness Program; $43,175 for Mobilization, Continuity of Government and Emergency Water Preparedness Programs; $76,449 for Emergency Operations; $79,593 for Rehabilitation; $780,788 for the Nationwide Civil Works Activities. Federal year costs were $11,023 for Section 205 Coordination; $21,463 for Elkton, MD; $1,002 for Gwynns Falls, Baltimore, MD; $3,075 for Paxton Creek Harrisburg, PA; $29,480 for North Branch at Westernport, MD; $15,241 for Middle North Branch, MD; $31,972 for Heshbon to Hepburnville, Lycoming Count; $267,005 for Montoursville Lycoming County, PA, $44,101 for Wills Creek, Allegheny County, MD; $94,503 for Soloman Creek Wilkes-Barre, PA; $4,910 for Flat Run, MD; $3,030 for Cedar Run, PA; $5,309 for Doe Run, PA and $3,814 for Winchester & Warrior Run, MD.

Non-Federal contributed costs were: $6,297 for Paxton Creek Harrisburg, PA; $75,964 for Solomon Creek PA; $112,720 for Elkton 205 Feasibility and $10,810 for Montoursville, Lycoming, PA.

Flood control activities pursuant to Section 14, Public Law 526, 79th Congress, as amended (pre-authorization). Fiscal year costs were $10,624 for Section 14 Coordination; $1,014 for Hooper Island Causeway, MD; $79,335 for Deep Run, Race Road, MD; $64,153 for Newton Creek Newton Avenue, NY; $80,609 for Pine Creek Township Road 566, PA; $94,661 for Chesapeake Bay Punch Island Road, MD; $73,786 for Patuxent River Patuxent Beach Road, MD and $3,894 for St. Mary's River, MD.

Non-Federal contributed costs was: $685 for Hooper Island Causeway, MD; and $85,000 for Deep Run, Race Road, MD.

MULTIPLE-PURPOSE PROJECTS INCLUDING POWER - None

ENVIRONMENTAL

52. ANACOSTIA RIVER AND TRIBUTARIES, MD AND DC

Location. The project area is the 170-square mile watershed of the Anacostia River. This watershed encompasses approximately 145 square miles in Montgomery and Prince George's Counties, Maryland,

and 25 square miles in the District of Columbia. The entire area is within the Washington, D.C. metropolitan area.

Existing project. The authorized plan provides for the construction of 80 acres of tidal and non-tidal freshwater wetlands, the restoration of 5 miles of piedmont streams, and the planting of 33 acres of bottomland hardwood forest within the highly urbanized Anacostia River watershed. The construction is located at 13 sites within the project area. The 13 actions include 2 wetland restorations, development of 5 stormwater management wetlands areas, and restoration of 6 stream reaches. The current estimated total cost for the Anacostia environmental restoration project is $18 million.

Local cooperation. The non-Federal sponsors for the project are Montgomery County, Prince George's County, the District of Columbia, the Maryland-National Capital Park and Planning Commission, and the National Park Service. The last two sponsors are the current landowners of the project sites. The non-Federal sponsors are required to pay 25 percent of the cost allocated to fish and wildlife restoration and to bear all costs of operation, maintenance, repair, rehabilitation and replacement of the facilities after construction.

Operations and results during fiscal year. The construction at eight sites in Montgomery County and the Kingman Lake site in the District of Columbia was completed in 2000-2002. Construction of the River Fringe Wetlands site was initiated in March 2003, and completed in September 2003. Project design continued for the Stewart-April Lane site in Montgomery County.

53. CHESAPEAKE BAY OYSTER RECOVERY, MD

Location. The project is located in the Maryland portion of the Chesapeake Bay.

Existing project. The authorized project contributes to multi-agency and private efforts to restore oyster populations in the Maryland portion of the Chesapeake Bay. Project elements include: construction and rehabilitation of oyster habitat; construction of seed bar facilities for production of oyster seed or "spat"; purchase of disease-free spat from the state-owned hatcheries, planting of disease-free spat in locations which best foster oyster production and health; and monitoring of project performance to increase oyster populations. Phase I of the project has an estimated total cost of $3,334,000. Phase II of the project, which will extend into the waters of Virginia, has an estimated project cost of $23,333,000.

Local cooperation. The State of Maryland is the sponsor for the Maryland action of the project. The local sponsor is required to pay 25% of the cost allocated to fish and wildlife restoration and to bear all costs of operation, maintenance, repair, rehabilitation and replacement of fish and wildlife facilities after construction.

Operations and results during fiscal year. New Work: The Phase I project construction was completed in September 2000, with monitoring activities continuing through September 2004. Planning for the long-term Phase II project was initiated in January 2001 and will continue through 2004. Short-term construction activities for the Phase II project were conducted in the summer of 2002 and 2003, and will continue through the summer of 2004.

54. CHESAPEAKE BAY ENVIRONMENTAL RESTORATION/PROTECTION PROGRAM, MD

Location. The project is located in the Chesapeake Bay area within portions of the states of Maryland, Virginia and Pennsylvania.

Existing Project. Section 510 of WRDA 1996 authorizes the Corps of Engineers to provide design and construction assistance to non-Federal interests for publicly owned water-related environmental infrastructure and resource protection and development of projects affecting the Chesapeake Bay estuary. These projects include sediment and erosion control, protection of eroding shorelines, creation or restoration of wetlands, protection of essential public works, wastewater treatment and related facilities, water supply and related facilities, and beneficial uses of dredged material, and other related projects that may enhance the living resources of the estuary. At least one project shall be established in each of the states of Maryland, Virginia and Pennsylvania. The Maryland projects include Tylerton, Shoreline Protection, Taylors Island Shoreline Protection, Warner Street Wetland Creation-Middle Branch Patapsco River, and an upgrade of the two Smith Island Wastewater Treatment Plants. The Virginia project was an oyster restoration project completed by Norfolk District and the Pennsylvania project will be an upgrade of the Scranton Wastewater Treatment Plant to include nitrogen removal.

Local cooperation. In order of the projects listed above, the Maryland sponsors include Somerset County, the Council for Dorchester County, the city of Baltimore, and the Maryland Department of the Environment. For Virginia, the sponsor was the Marine Resources Commission and for Pennsylvania, it will be the Sewer Authority of the City of Scranton.

Operations and results during fiscal year. Tylerton construction was completed except for some final drainage issues, the Taylors Island project management plan and design agreement were prepared and executed, the Warner Street fact sheet was prepared, and the Smith Island Wastewater Treatment Plants were designed and submitted for permit approval.

55. HART MILLER ISLAND, MD

Location. Hart-Miller Island (HMI) is located in the open waters of the northern Chesapeake Bay in Baltimore County, Maryland. The 1100 island is located adjacent to the Brewerton section of the 50-foot navigation channel serving the port of Baltimore.

Previous project. HMI was constructed of dredged material beginning in 1981 and is the authorized placement site for dredged material removed from the Federal navigation project serving the Port of Baltimore. The island is divided into two cells, a north cell and a south cell. In 1991, the State of Maryland closed the 300-acre a south cell of the facility to further placement of dredged material.

Existing project. The project for the restoration of the south cell of the island consists of approximately 180 acres of wetlands and mudflats for shorebird habitat, a one-acre nesting island, and 118 acres of upland for songbird habitat. A pumping system manages the water levels in the project area. The project is expected to provide habitat for over 200 species of birds and create nesting habitat for the endangered Least Tern.

Local Cooperation. The Maryland Port Administration is the non-Federal sponsor. The Maryland Department of Natural Resources will operate and maintain the site upon completion of construction. The state has completed their cost-sharing requirements, pending financial closeout. The State has provided sufficient cash and credits to satisfy the requirement of Section 1135 for the costs associated with the study, plans and specifications, and construction.

Operations and results during fiscal year. Project construction was initiated in August of 2002 and is expected to be completed in April 2004. Following construction the project will be monitored for five years. The final project cost is estimated to be $4.3 million.

56. NORTHEAST PENNSYLVANIA, PA

Location. The authorized program area consists of the following Pennsylvania counties: Lycoming, Sullivan, Bradford, Susquehanna, Wyoming, Lackawanna, Wayne, Pike, and Monroe including assistance for the Mountoursville Regional Sewer Authority, Lycoming County, Pennsylvania.

Existing program. Section 219, WRDA 92 establishes a pilot program to provide planning and design assistance for water- and sewer-related environmental infrastructure and resource protection and development projects for local communities. The program was amended by Section 502, WRDA 99 to allow for the provision of construction services as well. The current estimated project cost is $26,667,000, which includes a future inflation allowance through project completion.

Local cooperation. Cost sharing is 75% Federal and 25% non-Federal. The non-Federal Sponsor can use real estate credit and cash to meet their cost-sharing requirement; no in-kind credits are permitted. The non-Federal sponsor assumes 100% of the responsibility for operations & maintenance.

Operations and results during fiscal year. Maintenance: A $1.4 million contract was awarded to Braun Enterprises in Summer 2003 for the Section 219 Halls Station Sewer Project to construct approximately 1,200 LF of gravity sewer, 21,000 LF of forcemain, fourteen grinder pumps, and five pump stations that will convey wastewater collected at Halls Station to the Montoursville Regional Sewer System Wastewater Treatment Plant. A letter Report to support the PCA for the Muncy Creek Routes 405/442 Sewer Project was completed in Fall 2003.

57. ROOSTER ISLAND, MD

Location. Rooster Island is located in Cambridge, Maryland, on the south bank of the Choptank River about 1.75 miles northwest of the Choptank River Bridge (U.S. Route 50) and about 70 miles southeast of Baltimore, Maryland.

Previous project. The Corps maintains the Cambridge Harbor navigation channel, which is a channel 150 feet wide and 25 feet deep at mean low water from the depth in the Choptank River for an approximate distance of 2,000 feet. Approximately 78,000 cubic yards of material was dredged from the Choptank River by the Corps in 1988 as part of routine maintenance of the Cambridge Harbor navigation project.

Existing project. Rooster Island was at one time a sand spit containing vegetated wetlands that protected Hambrooks Bay and the adjacent shorelines. Due to the lack of a continuous sediment source caused by increased development and hardened shoreline, the spit has eroded to inter- and subtidal shoals leaving the adjacent shorelines vulnerable to erosion. The project consists of a 2,100-foot breakwater to protect the exposed northern side of the spit from wave attack. In addition, a groin field to stabilize the leeward side of the restoration was constructed and approximately 28,000 cubic yards of fill was taken from the previously used upland dredged material placement site and placed at the island and planted with wetland vegetation. Approximately 1.1 acres of uplands and 4.9 acres of tidal marsh were planted and approximately 80 acres of shallow water habitat is being protected.

Local Cooperation. Dorchester County is the non-Federal sponsor. The County has completed their cost-sharing requirements, pending project financial closeout. The County has provided sufficient cash and

credits to satisfy the requirement of Section 1135 for the costs associated with the study, plans and specifications, and construction.

Operations and results during fiscal year. Following the completion of construction, and during the five-year post construction monitoring period, it was discovered that the salt marsh had not survived. New bathymetric survey information has been gathered and options are being formulated to recreate the marsh and ensure its stability. The construction cost was $900,000.

58. POPLAR ISLAND, MD

Location. The group of islands known as Poplar Island is located in the upper middle Chesapeake Bay approximately 34 nautical miles southeast of the Port of Baltimore and 1 mile northwest of Tilghman Island, Talbot County, MD.

Existing project. The authorized project provides for the use of approximately 33 million cubic yards of dredged material from the southern approach channels of the Baltimore Harbor and Channels navigation project to restore 1,140 acres of remote habitat. The restoration project will employ dikes to contain the dredged materials necessary for the wetlands vegetation and to protect the facility from the severe wave activity common in this region of the Chesapeake Bay. The placement site will restore Poplar Island to its approximate 1847 configuration and will consist of 570 acres of upland habitat at an elevation up to +20 feet MLLW and 570 acres of wetland habitat that would be further divided into approximately 444 acres of low marsh and 111 acres of high marsh. The current estimated total project cost is $340 million (including a future inflation allowance through the project completion).

Local cooperation. The State of Maryland is the project sponsor and the Local Cooperation Agreement was executed April 4, 1997. The sponsor is required to provide lands, easements, and rights-of-way; pay 25% of the cost of the project; and bear all costs of operation, maintenance, replacement and major rehabilitation of the ecosystem restoration project.

Operations and results during fiscal year. New Work: The third inflow of dredged material (1.1 million cubic yards) started in November 2002 and was completed in January 2003. A 15 acre wetland demonstration cell (4DX) was completed in June 2003. A contract to raise the upland dikes in Cell 2 to their fully authorized height was awarded in September 2003. A General Re-evaluation Report was initiated in June 2003 to evaluate the potential for expansion of the project.

59. SOUTH CENTRAL PENNSYLVANIA ENVIRONMENTAL IMPROVEMENT PROGRAM

Location. The south central Pennsylvania area includes fifteen counties defined by the authorizing legislation. Funds for an additional six counties were provided in the FY 1998 and FY 1999 Energy and Water Appropriation Act. The program area within the Baltimore District consists of the Chesapeake Bay watershed portion of the program area including Bedford, Blair, Clearfield, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Snyder, and a portion of Cambria Counties.

Existing project. Section 313 of the Water Resources Development Act of 1992, as amended, established a pilot program for providing environmental assistance to non-Federal interests in south central Pennsylvania. Such assistance may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects, including projects for waste water treatment and related facilities, water supply, storage treatment, distribution facilities, and surface water resource protection and development. The Federal share may be provided in the form of grants or reimbursements to the sponsor. Section 313 as amended authorizes Federal appropriations of $180 million to carry out the program, including $90 million within the Chesapeake Bay watershed area. From FY 94 through FY03, Congress has added $71,392,774 to the Corps budget for 65 projects in the Baltimore District for water supply and distribution, wastewater collection and treatment and a master plan.

Local cooperation. The non-Federal sponsors are required to provide 25% of project costs including lands, easements, rights-of-way, and relocations and bear all costs of operation, maintenance, replacement, repair and rehabilitation of the project after construction.

Operations and results during fiscal year. New Work: Construction of the passive treatment measures at PA 3888 are scheduled to be completed in July 2004. Other FY 2004 construction activities include: mine-land reclamation at PA 3896, 3897, and 3898, and passive treatment installation at PA 3895.

REGULATORY PROGRAM

60. REGULATORY PROGRAM

The Regulatory Program began FY03 with 864 applications pending from FY02. During FY03, 4565 new applications were received; 3657 permits were issued; 0 application were denied and 0 were withdrawn; for activities in regulated waterways and wetlands in MD, Washington DC, and part of PA. At the beginning of the FY, 182 enforcement cases were

pending. During FY03, 20 violations were resolved and 131 new violations were discovered/reported. 595 Jurisdictional determinations were requested and verified. Total FY03 Regulatory Program costs were $4,990,000.00.

AQUATIC ECOSYSTEM RESTORATION

61. DEEP RUN/TIBER HUDSON, MD

Location. The study area is located within a highly developed eastern portion of Howard County, Maryland, Howard County lies southwest of Baltimore, within the Baltimore-Washington, DC metropolitan corridor. Both the Deep Run and Tiber-Hudson watersheds are located in the 685-square mile drainage basin of the Patapsco River.

Existing project. The project will consist of 2 stormwater management ponds, 3 wetland creation sites and 7 stream restoration sites.

Local cooperation. Howard County is the non-Federal sponsor and is providing sufficient cash and credits to satisfy the requirements of Section 206 for plans and specifications and construction.

Operations and results during fiscal year. The construction portion of a design-build contract is currently being negotiated for two of the projects and coordination with the non-Federal sponsor for the remaining real estate interests is on-going. Project construction is currently scheduled to begin in Summer 2005 and be complete by Fall 2005. The current construction cost estimate is $252,000.

62. DENTS RUN, PA

Location. The Dents Run watershed is located in Benezette Township, Elk County, Pennsylvania. The lower 4.5 miles of Dents Run is devoid of aquatic life due to acid mine drainage along its tributary, Porcupine Hollow. In addition, approximately 250 acres of upland habitat scarred from past mining activities does not provide suitable habitat for wildlife.

Existing Project. On March 11, 2002, the Chief of Engineer, under the authority provided by Section 206 of the Water Resources Development Act of 1996, as amended, authorized construction of aquatic ecosystem restoration and protection measures. The work consists of mining of 500,000 tons of limestone and remediation work at PA 1934, which is located on Winslow Hill Road off Route 555.

Local cooperation. The sponsor is the Bennett Branch Watershed Association. The sponsor funds are provided from PADEP-BAMR ($2.7 million) and the Pennsylvania Growing Greener Program ($1.3 million), and in partnership with the Pennsylvania Game Commission (PGC) is responsible for providing 35 percent of the project costs and for providing the entire cost of design and construction reclamation and passive treatment system work at PA 1934. The Western Pennsylvania Conservancy, under a Memorandum of Understanding with the sponsor, will assist the sponsor in all real estate acquisition activities.

Operations and results during fiscal year. Construction of the passive treatment measures at PA 3888 are scheduled to be completed in July 2004. Other FY 2004 construction activities include: mine-land reclamation at PA 3896, 3897, and 3898, and passive treatment installation at PA 3895. The construction cost estimate is $5 million.

63. ISLE OF WIGHT BAY, MD

Location. The Isle of Wight is a 223 acre island located 2 miles west of Ocean City at the confluence of Isle of Wight and Assawoman Bays; the mouth of the St. Martins River lies to the west of the island. The island is bisected by Route 90, which provides one of two links between Ocean City and the Worcester County mainland. The site of the salt marsh restoration/shoreline re-establishment project lies along the southeastern shoreline of the island.

Existing Project. The project consists of replacement of a failing steel bulkhead on the eastern end of the site with a sloped stone revetment; construction of a series of detached and attached offshore breakwaters and sill structures along approximately 2,500 linear feet of shoreline; pulverization and placement of the existing concrete rubble; placement of material landward of the breakwaters to provide a substrate for marsh creation; planting marsh grasses; and construction of several recreational features on the adjacent upland.

Local cooperation. The Maryland Department of Natural Resources is the non-Federal sponsor and has completed their cost-sharing requirements, pending project financial closeout. The non-Federal sponsor has provided sufficient cash and credits to satisfy the requirements of Section 206 for plans and specifications and construction.

Operations and results during fiscal year. Project construction was initiated in February 2003 and is expected to be completed in Spring 2004. A dedication ceremony is scheduled for May 2004, by which time all construction activities are expected to be complete. The project implementation cost is $2.3 million.

64. LITTLE FALLS FISH PASSAGE #2

Location. Little Falls is located in Montgomery County just upriver from the District of Columbia.

Existing project. Little Falls Dam was built in 1959 as a water supply facility for the Washington D.C. metropolitan area. A fishway was recently constructed within the dam and is centered 75 feet from the Virginia side of the river. This is where migratory fish typically congregate below the dam. The innovative design uses three "W"-shaped labyrinth weirs within and below a 36-foot wide, 4 foot deep notch in the dam. The weirs reduce water velocity to levels that allow fish to move upstream over the passage despite a wide range of river flow. The main target species of the fishway is American shad (alosa sapidissima). The goal of the project was to reestablish migrating fish access to 10 miles of historic spawning habitat upstream of the dam. Construction was completed in February 2000.

Local cooperation. The State of Maryland Department of Natural Resources (DNR), is the project sponsor under this Section 1135 project. As required under the Section 1135 project program, the State contributed 25 percent of the total project cost of $2 million. The Washington Aqueduct has assumed these responsibilities because the dam serves as a water supply conduit.

Operations and results during fiscal year. As part of the post construction activities for this project, a five year monitoring program was established to verify the effectiveness of the modification. This is a continuation of stocking and monitoring efforts begun in 1995, by the Interstate Commission for the Potomac River Basin (CPRB), DC Fisheries, Maryland DNR, and citizen volunteers. The monitoring will determine how many of the original hatchery fish return to the area as adults to spawn. Three American shad were collected during the spring 2000 monitoring efforts in the Mater Gorge area and no other migratory fishes were captured.

65. AQUATIC ECOSYSTEM RESTORATION

Fiscal year costs were $9,946 for Section 206 Coordination; $1,232 for Ocean Pines, Worcester County, MD; $234,145 for Nanticoke Creek Luzerne, PA; $63,763 for Easton, MD; $284,829 for Blackwater, MD; $105,278 for Lower Anacostia Park, DC; $50,274 for Ft. Chaplin/Ft. Dupont, DC; $55,270 for Eastonbrook Reservoir, NY; $172,873 for Loyalsock Creek-Dushore; PA; $245,717 for North Beach, MD; $77,288 for Northwest Branch Anacostia; $130,226 for St. Martin's River Ocean City, MD; $184.212 for Western Branch Patuxent; MD; $47,506 for Parsons Creek; MD; $376,495 for Kettle Creek, PA; $173,016 for Fall Brook, PA; $211,272 for Powderly Creek, PA; $162,634 for Dog Island Shoals, MD; $53,267 for Chenango Lake, NY; $49,842 for Six Mile Run, PA; $48,316 for Sandy Run, PA; $4,186 for Longs Run, PA; $17,838 for Great Cypress Swamp, DE; $29,934 for Paint Branch Fish Passage, MD; $240,927 for Sweet Arrow Lake, PA; $156,288 for Lower Gwynns Falls, MD; $18,178 for Delaware Forested Wetlands, DE; $156,228 for Codorus Creek, PA; $20,721 for Forestville, MD; $91,940 for Brubaker Run, PA; $35,247 for Wright's Creek, MD; $104,483 for Tidal Middle Branch, MD; $1,996 for Betterton, MD; $83,518 for Urieville Lake, MD; $9,937 for Watts Branch, D.C.; $7,120 for Hurst Creek, MD and $9,326 for Shoups Run, PA.

Fiscal year costs were $55,690 for Aquatic Plant Control. Fiscal year costs were $9,992 for Section 1135 Coordination; $2,000 for Jennings Randolph Lake, MD & WV Nitroge; $236,170 for Whitney Point Reservoir, NY; $55,865 for Kitzmiller, MD; $53,786 for Heritage Island, DC; $110,303 for Lower Kingman Island; and $368,958 for York Restoration Project, PA.

Fiscal year miscellaneous costs were $9,965 for Coordination Account Funds and $2,618 for Initial Appraisals.

WATER SUPPLY

66. WASHINGTON AQUEDUCT

Location. The diversion dam and raw water supply intakes at Great Falls, the two collecting conduits, part of Dalecarlia receiving reservoir, the booster pumping of Dalecarlia receiving reservoir, the booster pumping station and the Little Falls raw water pumping station are located in Maryland. All other structures of the water supply system including parts of the raw water collecting system, two purification plants, pumping stations, storage reservoirs, and transmission mains are in the District of Columbia. Federally owned water mains are maintained in Virginia and Maryland.

Existing project. Control of the water supply system is vested in the Chief of Engineers (see Acts of March 3, 1859, and March 2, 1867, November 22, 1973 and Sec. 1800 of Revised Statutes). The project includes: administration; operation and maintenance of the collection, purification, pumping, and transmission facilities; protection of the water supply system; engineering; and construction of major water system additions and improvements.

Authority to supply water to Arlington County, the City of Falls Church, and other jurisdictions in Virginia is contained in Public Law 119, 69th Congress, approved April 14, 1926; and Public Law 118, 80th Congress, June 26, 1947.

Local cooperation. Requirements are described in full on page 4-19 of the Fiscal Year 1981 Annual Report.

Operations and results during fiscal year. Purified water was furnished to the District of Columbia; Arlington County, and Falls Church, VA; and to Federal Establishments in the District of Columbia,

Arlington County, VA, and Montgomery County, MD. Total consumption for fiscal year 2003 was 58.81 billion gallons. The average amount furnished Arlington County and Falls Church, VA was 33.72 million gallons per day. The Corps of Engineers was reimbursed $20,261,576 for operations and maintenance of which $7,536,854 was from Virginia.

GENERAL INVESTIGATIONS

67. SURVEYS

Federal costs for the fiscal year were $2,437,626 including $351,472 for flood damage prevention studies, $1,362,471 for special studies, $153,809 for special investigations, $14,787 for interagency water resource development, $4,597 for National estuary studies, and $212,326 for coordination with other agencies and non-Federal interests.

Non-Federal contributed costs for the fiscal year were $20,036 of which ($619,911) was for navigation studies, $445,961 for flood damage prevention studies, and $193,987 for special studies and non-Federal interest.

68. COLLECTION AND STUDY OF BASIC DATA

Costs for flood plain management activities and general planning guidance during the period was $141,795. Providing assistance and guidance to local interests on methods and procedures for preventing and reducing flood damages was in progress at end of fiscal year.

69. PRECONSTRUCTION ENGINEERING AND DESIGN

Smith Island Environmental Restoration--Smith Island is Maryland's only inhabited offshore island having been settled in the mid 1600's. There are three towns on the island Ewell, Rhodes Point and Tylerton, with harbors that are used by the oystering and crabbing industries. In the past 100 years, 1,200 acres of Smith Island have eroded into the Chesapeake Bay, and future erosion will destroy the island if unchecked. There are existing Federal navigation channels being maintained for the island, all of which were formulated and constructed prior to today's recognition of fish and wildlife values. The recommended projects include construction of environmental restoration measures including protection/restoration of SAV habitat and protection/creation of wetlands and navigation improvements. Total Federal costs during the fiscal year was $178,840 and total Non-Federal costs was $102,154. Estimated pre-construction planning cost is $680,000.

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

70. W.R. GRACE, CURTIS BAY FACILITY, MD

Location. The W.R. Grace Curtis Bay Facility is located at 5500 Chemical Road in Baltimore, Maryland on an industrialized peninsula in south Baltimore, and consists of 260 acres owned by Grace. The property is bordered on the north by Curtis Bay, on the west by Curtis Creek, on the east by the Patapsco River, and on the south by the Baltimore City Municipal Landfill. The facility currently consists of a manufacturing plant and waste disposal areas.

Existing project. Currently, W.R. Grace manufactures and produces specialty chemicals at its Curtis Bay facility. Contamination at the site consists of radioactively-contaminated slabs and other surfaces impacted by the thorium extraction process in Building 23 and the Radioactive Waste Disposal Area to the east of the plant property. The W.R. Grace Site has been separated into 2 distinct work components: Building 23 and the Radioactive Waste Disposal Area. The overall project cost is estimated at over $50 million.

Local Cooperation. Not applicable.

Operation and results during fiscal year. New Work: Feasibility Studies for the Radioactive Waste Disposal Area and Building 23 continued throughout the fiscal year. Total cost for the fiscal year was $1,279,694.

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
1.	**Baltimore Harbor and Channels, MD and VA**	New Work					
		Approp.	1,714,000	4,900,000	129,000	8,000	151,613,712 [1]
		Cost	432,753	5,460,858	861,825	8,233	151,579,056 [1]
		Maint.					
		Approp.	22,016,323	17,325,481	10,730,464	7,759,690	265,700,627 [2]
		Cost	22,071,927	17,332,787	10,416,822	7,859,899	264,699,521 [2]
		Contributed					
		Approp.	1,000,000	1,560,000	5,141	0	70,234,755
		Cost	121,854	1,957,850	477,634	0	69,359,689
1A.	**Tolchester Channel, S-Turn, MD**	Maint.					
		Approp.	0	0	0	0	11,096,533
		Cost	0	0	0	0	11,096,530
2.	**Baltimore Harbor, Anchorage & Channels, MD**	New Work					
		Approp.	--	314,000	6,891,000	11,200,000	18,405,000
		Cost	--	182,741	7,020,722	11,070,466	18,273,929
		Contributed					
		Approp.	0	0	3,500,000	3,800,000	7,300,000
		Cost	0	0	2,207,072	4,287,075	6,494,147
3.	**Baltimore Harbor, MD, Collection & Removal of Drift**	Maint.					
		Approp.	419,100	498,022	490,000	376,000	9,415,821
		Cost	423,940	498,209	489,226	371,772	9,410,895
4.	**Bonum Creek, VA**	Maint.					
		Approp.	--	--	--	13,800	13,800 [3]
		Cost	--	--	--	13,762	13,762 [3]
5.	**Coan River, VA**	New Work					
		Approp.	--	--	--	551,800	551,800 [4]
		Cost	--	--	--	284,096	284,096 [4]
6.	**Duck Point Cove, MD**	Maint.					
		Approp.	--	--	19,476	3,943	23,419 [5]
		Cost	--	--	19,308	4,110	23,418 [5]
7.	**Fishing Creek, MD**	Maint.					
		Approp.	--	--	50,735	314,000	364,735 [6]
		Cost	--	--	50,545	306,514	357,059 [6]
8.	**Honga River & Tar Bay, MD**	New Work					
		Approp.	0	0	0	0	66,119 [7]
		Cost	0	0	0	0	66,119 [7]
		Maint.					
		Approp.	850,497	25,882	55,840	1,067,000	8,902,287
		Cost	853,101	25,222	56,074	420,124	8,288,427
9.	**Knapps Narrows, MD**	New Work					
		Approp.	--	--	--	--	23,836
		Cost	--	--	--	--	23,836
		Maint.					
		Approp.	--	--	--	21,000	21,000 [8]
		Cost	--	--	--	21,010	21,010 [8]

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
10.	**Monroe Bay and Creek, VA**	New Work					
		Approp.	--	--	--	--	22,434
		Cost	--	--	--	--	22,434
		Maint.					
		Approp.	--	--	--	14,000	14,000 [9]
		Cost	--	--	--	14,000	14,000 [9]
11.	**Muddy Hook & Tyler Cover**	New Work					
		Approp.	--	--	--	--	64,001
		Cost	--	--	--	--	64,001
		Maint.					
		Approp.	--	--	22,788	164,000	186,788 [10]
		Cost	--	--	22,787	45,944	68,731 [10]
12.	**Nanticoke River, MD**	Maint.					
		Approp.	--	15,082	408,565	354,000	777,647 [11]
		Cost	--	14,917	406,101	355,735	776,753 [11]
13.	**Occoquan River, VA [12]**	Maint.					
		Approp.	0	19,850	327,457	135,000	482,307 [13]
		Cost	0	19,850	322,676	138,078	480,604 [13]
14.	**Ocean City Harbor and Inlet and Sinepuxent Bay, MD**	New Work					
		Approp.	0	0	0	0	362,193 [14]
		Cost	0	0	0	0	362,193 [14]
		Maint.					
		Approp.	267,000	702,131	2,671,733	2,575,775	18,471,439
		Cost	248,170	721,814	2,661,697	2,581,449	18,466,903
15.	**Potomac River, MD**	Maint.					
		Approp.	--	--	72,315	111,600	183,915 [15]
		Cost	--	--	71,681	111,125	182,806 [15]
16.	**Potomac and Anacostia Rivers, DC, Collection Removal of Drift**	Maint.					
		Approp.	709,700	981,703	717,120	906,000	18,361,898
		Cost	715,626	982,650	716,444	836,822	18,291,743
17.	**Potomac River Below Washington, DC**	New Work					
		Approp.	0	0	0	0	254,036
		Cost	0	0	0	0	244,858
		Maint.					
		Approp.	1,918,417	105,595	130,876	53,200	5,020,382
		Cost	1,919,978	105,315	131,182	6,759	4,973,937
18.	**Prevention of Obstruction & Injurious Deposits Baltimore Harbor, MD**	Maint.					
		Approp.	605,600	678,904	624,000	631,000	12,818,549
		Cost	609,935	678,916	623,782	628,892	12,816,326
19.	**Rhodes Point to Tylerton, MD**	Maint.					
		Approp.	0	62,259	944,062	160,000	1,166,321 [16]
		Cost	0	61,805	944,514	159,502	1,165,821 [16]

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
20.	**Tilghman Island Harbor**	Maint.					
		Approp.				20,000	20,000 [17]
		Cost				20,000	20,000 [17]
21.	**Tall Timber, MD**	Maint.					
		Approp.	--	--	--	151,400	151,400 [18]
		Cost	--	--	--	8,977	8,977 [18]
22.	**Twitch Cove & Big Thorofare, MD**	New Work					
		Approp.	0	0	0	0	424,800
		Cost	0	0	0	0	424,800
		Maint.					
		Approp.	549,296	63,686	1,126,263	1,150,000	9,239,356
		Cost	553,039	63,687	1,106,150	1,170,084	9,199,409
23.	**Upper Thorofare Deal Island, MD**	Maint.					
		Approp.	0	31,681	38,751	53,700	173,680 [19]
		Cost	0	31,679	28,398	64,024	173,649 [19]
24.	**Washington Harbor, DC**	New Work					
		Approp.	0	0	0	0	3,191,077 [20]
		Cost	0	0	0	0	3,191,077 [20]
		Maint.					
		Approp.	29,900	36,454	45,723	38,000	5,355,760 [21,22]
		Cost	29,806	36,657	45,721	35,613	5,353,271 [21,22]
25.	**Wicomico River, MD**	New Work					
		Approp.	0	0	0	0	471,609 [23]
		Cost	0	0	0	0	471,609 [23]
		Maint.					
		Approp.	220,228	893,419	212,035	1,961,700	15,435,781
		Cost	219,794	896,227	200,531	1,973,019	15,407,888
28.	**Assateague Island**	New Work					
		Approp.	200,000	484,560	5,344,000	5,016,000	11,044,560
		Cost	77,561	367,011	4,252,217	6,289,324	10,986,113
29.	**Atlantic Coast of Maryland**	New Work					
		Approp.	172,000	155,000	3,000,000	176,000	35,507,000
		Cost	143,953	76,860	2,928,362	395,302	35,476,824
		Contributed					
		Approp.	237,249	94,420	2,518,420	746,616	25,680,757
		Cost	169,279	189,412	2,463,878	354,048	24,857,599
31.	**Cumberland, MD and Ridgely, WV**	New Work					
		Approp.	0	0	493,000	960,000	17,087,070
		Cost	181,884	13,811	383,474	672,909	16,981,111
		Maint.					
		Approp.	112,200	112,345	135,414	125,900	2,391,372
		Cost	112,594	112,402	135,441	125,642	2,098,466
32.	**Jennings Randolph Lake, MD and WV**	New Work					
		Approp.	23,035	0	0	0	176,644,435
		Cost	119,471	0	0	0	176,644,034

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
		Maint.					
		Approp.	1,549,150	2,334,295	4,318,289	1,344,700	35,076,006
		Cost	1,574,734	2,334,161	2,364,805	2,799,810	34,575,957
33A.	**Aylesworth Creek**	New Work					
	Lake, PA	Approp.	0	0	0	0	2,320,410
		Cost	0	0	0	0	2,320,410
		Maint.					
		Approp.	234,100	202,736	211,676	257,000	3,928,035
		Cost	231,582	205,551	211,111	256,846	3,927,125
34.	**Loyalsock Creek**	New Work					
	Warrensville Rd., PA	Approx.	0	0	0	72,500	72,500
		Cost	0	0	0	62,529	62,529
35.	**Lycoming County**	New Work					
	Flood Warning	Approp.	0	0	0	126,300	126,300
	System, PA	Cost	0	0	0	198,945	198,945
36.	**Moorefield, WV**	New Work					
		Approp.	86,000	0	85,000	(60,000)	19,099,100
		Cost	391,998	80,985	27,074	26,078	19,094,307
		Contributed					
		Approp.	0	0	0	0	1,205,602
		Cost	0	0	0	0	1,199,461
37.	**Lackawanna River,**	New Work					
	Olyphant, PA	Approp.	0	0	0	946,000	9,993,000
		Cost	125,487	368,350	2,225,114	4,754,754	9,720,079
38.	**Raystown Lake**	New Work					
	Raystown Branch,	Approp.	0	0	0	0	77,418,770
	Juniata River, PA	Cost	0	0	0	0	77,418,770
		Maint.					
		Approp.	3,844,000	4,656,922	3,817,999	4,724,000	79,729,336
		Cost	3,948,300	4,663,903	3,775,871	4,036,001	78,998,377
		Contributed					
		Approp.	4,264	8,520	1,500	0	29,834
		Cost	2,025	1,500	5,321	0	20,125
39.	**Scranton, Lackawanna**	New Work					
	River, PA	Approp.	0	0	0	(17,000,000)	28,792,000
		Cost	1,263,132	454,158	9,478,736	2,966,002	17,573,745
		Contributed					
		Approp.	0	0	400,000	450,000	891,000
		Cost	0	40,728	339,017	381,824	761,569
40.	**Ocean Pines,**	New Work					
	Worcester County, MD	Approp.	70,200	480,600	342,700	1,000	1,004,300
		Cost	65,790	495,817	342,089	1,232	1,003,798
		Contributed					
		Approp.	0	156,961	20,000	0	176,961
		Cost	0	48,140	121,484	7,296	176,920

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
41.	**Williamsport Hagerman Flume**	New Work					
		Approp.	0	374,000	(500,000)	30,000	129,000
		Cost	20,028	24,490	9,757	42,145	110,446
		Contributed					
		Approp	21,000	0	0	0	21,000
		Cost	6,242	2,374	7,505	4,035	20,156
42.	**PA and WV Flooding Program**	New Work					
		Approp.	727,000	838,000	(783,000)	(727,000)	305,000
		Cost	47,648	50,264	107,874	18,346	250,074
		Contributed					
		Approp.	0	20,950	37,863	0	58,813
		Cost	0	10,334	27,838	18,494	56,666
43A.	**Addison, NY**	New Work					
		Approp.	0	0	0	0	827,050
		Cost	0	0	0	0	827,050
		Maint.					
		Approp.	21,200	14,260	18,855	25,000	409,880
		Cost	24,014	14,949	18,849	23,976	408,852
43B.	**Almond Lake, NY**	New Work					
		Approp.	0	0	0	0	5,760,211
		Cost	0	0	0	0	5,760,211
		Maint.					
		Approp.	432,620	450,624	455,593	435,000	9,632,518
		Cost	427,918	455,343	451,981	427,137	9,592,910
43C.	**Arkport Dam, NY**	New Work					
		Approp.	0	0	0	0	1,910,000[24]
		Cost	0	0	0	0	1,910,000[24]
		Maint.					
		Approp.	232,900	240,360	240,427	234,000	4,824,499
		Cost	228,366	245,376	240,364	233,894	4,824,322
43D.	**Avoca, NY**	New Work					
		Approp.	--	--	--	--	436,374[25]
		Cost	--	--	--	--	436,374[25]
		Maint.					
		Approp.	16,800	17,960	25,039	29,000	663,560
		Cost	17,187	17,987	25,037	28,745	663,201
43E.	**Binghamton, NY**	New Work					
		Approp.	0	0	0	0	3,460,000[26]
		Cost	0	0	0	0	3,460,000[26]
		Maint.					
		Approp.	54,500	96,313	79,234	24,000	1,201,028
		Cost	54,913	96,351	79,226	24,004	1,201,024
43F.	**Canisteo, NY**	New Work					
		Approp.	0	0	0	0	1,183,111[27]
		Cost	0	0	0	0	1,183,111[27]
		Maint.					
		Approp.	46,900	35,654	35,372	41,000	1,283,161
		Cost	47,790	35,753	35,371	39,683	1,281,854

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
43G.	**Corning, NY**	New Work					
		Approp.	0	0	0	0	3,322,000 [28]
		Cost	0	0	0	0	3,322,000 [28]
		Maint.					
		Approp.	31,500	44,730	54,160	70,000	1,463,668
		Cost	32,319	44,740	54,160	67,673	1,462,332
43H.	**East Sidney Lake, NY**	New Work					
		Approp.	0	0	0	0	6,049,504
		Cost	0	0	0	0	6,049,504
		Maint.					
		Approp.	580,700	494,183	465,104	462,200	11,805,958
		Cost	580,171	494,912	456,111	466,854	11,781,548
43I.	**Elmira, NY**	New Work					
		Approp.	0	0	0	0	6,883,305
		Cost	0	0	0	0	6,883,305
		Maint.					
		Approp.	20,400	14,127	26,010	69,000	572,346
		Cost	20,343	14,184	26,010	68,987	572,333
43J.	**Hornell, NY**	New Work					
		Approp.	0	0	0	0	4,558,698 [29]
		Cost	0	0	0	0	4,558,698 [29]
		Maint.					
		Approp.	194,400	312,579	164,481	224,000	10,862,166
		Cost	203,720	312,827	163,913	218,465	10,856,259
43K.	**Lisle, NY**	New Work					
		Approp.	0	0	0	0	661,199 [30]
		Cost	0	0	0	0	661,199 [30]
		Maint.					
		Approp.	37,100	35,719	26,668	46,000	1,186,559
		Cost	38,007	35,764	26,668	45,939	1,186,399
43L.	**Oxford, NY**	New Work					
		Approp.	0	0	0	0	131,000 [31]
		Cost	0	0	0	0	131,000 [31]
		Maint					
		Approp.	15,000	16,051	28,284	28,000	465,437
		Cost	14,985	16,066	28,280	27,997	465,432
43M.	**Whitney Point Lake, NY**	New Work					
		Approp.	0	0	0	0	5,421,540
		Cost	0	0	0	0	5,421,540
		Maint.					
		Approp.	703,800	707,227	582,793	592,900	18,147,777
		Cost	693,742	717,392	573,585	558,137	18,103,639
43N.	**Whitney Point Village, NY**	New Work					
		Approp.	0	0	0	0	424,196
		Cost	0	0	0	0	424,196
		Maint.					
		Approp.	35,800	18,040	29,765	25,000	681,586
		Cost	35,914	18,116	26,679	28,083	681,584

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
44.	**Stillwater Lake, Lackawanna River, PA**	New Work					
		Approp.	0	0	0	0	5,725,700
		Cost	0	0	0	0	5,725,700
		Maint.					
		Approp.	408,300	368,149	332,090	373,000	7,463,529
		Cost	407,946	369,313	329,115	369,056	7,456,424
45A.	**Cowanesque Lake, PA**	New Work					
		Approp.	0	0	0	0	107,470,700
		Cost	0	0	0	0	107,470,751
		Maint.					
		Approp.	1,701,600	2,118,469	1,821 295	1,875,800	31,380,345
		Cost	1,698,550	2,131,176	1,817,584	1,834,824	30,348,513
		Contributed					
		Approp.	141,591	0	0	0	13,760,935
		Cost	126,366	15,226	0	0	13,780,934
45B.	**Tioga-Hammond Lakes, PA**	New Work					
		Approp.	0	0	0	0	186,244,800
		Cost	0	0	0	0	186,244,800
		Maint.					
		Approp.	2,007,703	3,110,180	2,918,856	4,068,100	45,406,982
		Cost	2,029,549	3,120,402	2,866,426	3,983,565	45,288,185
46A.	**Alvin R. Bush Dam, PA**	New Work					
		Approp.	0	0	0	0	7,103,001
		Cost	0	0	0	0	7,103,001
		Maint.					
		Approp.	707,000	639,410	570,840	602,000	14,645,326
		Cost	703,924	642,677	563,244	604,690	14,649,470
46B.	**Curwensville Lake, PA**	New Work					
		Approp.	0	0	0	0	20,406,060
		Cost	0	0	0	0	20,406,060
		Maint.					
		Approp.	752,600	654,525	645,169	662,400	17,251,870
		Cost	754,830	658,672	632,202	672,131	17,246,554
		Contributed					
		Approp.	37,500	0	0	0	1,751,053
		Cost	20,518	16,507	0	0	1,734,053
46C.	**Foster Joseph Sayers Dam, PA**	New Work					
		Approp.	0	0	0	0	30,887,063 [32]
		Cost	0	0	0	0	30,887,063 [32]
		Maint.					
		Approp.	685,000	691,812	707,351	765,500	18,017,971
		Cost	685,383	691,612	699,991	748,694	17,992,745
47.	**Wyoming Valley, PA (Levee Raising)**	New Work					
		Approp.	8,875,000	13,980 000	19,319,000	10,542,000	86,559,000
		Cost	10,503,210	13,412,414	21,850,803	10,790,048	86,456,186
		Contributed					
		Approp.	0	5,000,000	9,000,000	3,000,000	24,500,000
		Cost	1,623,010	5,756,344	9,839,345	3,392,789	24,491,865

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
48.	**York, Indian Rock Dam, PA**	New Work					
		Approp.	0	0	0	0	5,601,167 [33]
		Cost	0	0	0	0	5,601,167 [33]
		Maint.					
		Approp.	552,000	640,041	543,906	532,000	19,079,737 [34]
		Cost	569,543	641,146	511,430	550,897	19,070,769 [34]
52.	**Anacostia River & Tributaries, MD & DC**	New Work					
		Approp.	3,757,000	2,811,000	(573,000)	2,827,000	10,355,000
		Cost	4,112,045	1,340,481	1,055,120	2,529,169	10,044,812
		Contributed					
		Approp.	--	--	--	990,000	990,000
		Cost	--	--	--	941,239	941,239
53.	**Chesapeake Bay Oyster Recovery, MD**	New Work					
		Approp.	365,000	389,000	536,000	915,000	4,346,000
		Cost	317,947	70,096	917,920	912,498	4,342,592
54.	**Chesapeake Bay Environmental Program, MD**	New Work					
		Approx.	114,000	749,000	98,000	108,000	2,705,000
		Cost	301,186	985,525	1,146,395	24,653	2,548,555
		Contributed					
		Approp.	400,000	266,666	12,500	0	679,166
		Cost	11,461	277,256	377,659	11,965	678,341
55.	**Hart Miller Island, MD**	New Work					
		Approp.	--	--	769,500	2,729,400	3,498,900
		Cost	--	--	664,400	2,831,578	3,495,978
		Contributed					
		Approp.	--	--	281,000	0	281,000
		Cost	--	--	0	117,630	117,630
56.	**Northeast Pennsylvania, PA**	New Work					
		Approp.	--	116,000	703,000	(680,000)	139,000
		Cost		6,829	26,045	44,947	77,821
		Contributed					
		Approp.	--	--	--	343,975	343,975
		Cost	--	--	--	855	855
57.	**Rooster Island, MD**	New Work					
		Approp.	--	--	--	13,500	13,500
		Cost	--	--	--	13,359	13,359
		Contributed					
		Approp.	0	0	0	0	298,100
		Cost	0	12,325	1,489	4,218	296,833
58.	**Poplar Island, MD**	New Work					
		Approp.	14,606,000	36,482,000	18,243,000	8,215,000	112,363,000
		Cost	14,824,205	36,090,147	18,729,738	8,043,926	111,962,020
		Contributed					
		Approp.	6,175,000	13,500,000	8,100,000	0	40,100,000
		Cost	5,518,176	13,979,114	6,646,012	1,075,452	39,076,664

TABLE 4-A COST AND FINANCIAL STATEMENT

See Section In Text	Project	Funding	FY00	FY01	FY02	FY03	Total to Sept. 30, 2003
59.	**South Central Environmental Restoration Infrastructure and Resource Protection Development Pilot, PA**	New Work					
		Approp.	0	4,880,000	1,404,000	(2,955,000)	55,995,775
		Cost	9,555,699	10,408,290	12,969,239	6,819,303	55,637,699
		Contributed					
		Approp.	0	0	1,300,000	0	6,972,923
		Cost	0	0	356,020	1,067,131	7,096,075
61.	**Deep Run/Tiber Hudson, MD (New Project)**	New Work					
		Approp.	--	--	--	173,300	173,300
		Cost	--	--	--	154,902	154,902
62.	**Dents Run, PA**	New Work					
		Approp.	--	--	148,300	456,100	604,400
		Cost	--	--	148,858	454,881	603,739
63.	**Isle of Wight Bay, MD**	New Work					
		Approp.	--	--	--	1,784,614	1,784,614 [35]
		Cost	--	--	--	1,783,746	1,783,746 [35]
		Contributed					
		Approp.	--	--	--	412,021	412,021
		Cost	--	--	--	0	0
64.	**Little Falls Fish Passage #2**	New Work					
		Approp.	--	--	--	23,300	23,300 [36]
		Cost	--	--	--	23,276	23,276 [36]
		Contributed					
		Approp.	274,641	0	0	0	489,641
		Cost	348,418	18,032	17,842	7,326	447,955

1. Includes $8,467,003 for previous projects.
2. Includes $399,802 for previous projects.
3. Excludes $456,576 for previous projects.
4. Excludes $643,304 for previous projects.
5. Excludes $378,477 for previous projects.
6. Excludes $2,198,174 for previous projects.
7. Excludes $2,200 contributed funds and includes $27,668 emergency relief funds.
8. Excludes $1,207,831 in previous projects.
9. Excludes $483,685 for previous projects.
10. Excludes $687,568 for previous projects.
11. Includes $604,441 for previous projects.
12. Unconstructed portion of the project was deauthorized November 2, 1979.
13. Includes $203,198 for previous projects.
14. Includes $283,008 public works funds and $67,185 emergency relief funds; excludes $500,000 contributed funds.
15. Excludes $3,454,849 for previous projects.
16. Includes $2,368,946 for previous projects.
17. Excludes $464,788 for previous projects.
18. Excludes $1,504,297 for previous New Start projects, $216,265 for previous O&M projects. And $10,306 for contributed funds.
19. Excludes $864,205 for previous projects.
20. Includes $3,029,001 for previous projects.
21. Excludes $1,831,609 for previous project.
22. Excludes $4,000 for emergency dredging under provisions of Section 3, 1945 River and Harbor Act.
23. Includes $50,000 for previous project and excludes $14,000 contributed funds.
24. Includes $62,577 emergency relief funds.
25. Includes $109,944 emergency relief funds.
26. Excludes $163,096 contributed funds.
27. Includes $207,520 rehabilitation funds.
28. Excludes $34,729 contributed funds.
29. Includes $250,899 emergency relief funds and excludes $15,000 contributed funds.
30. Includes $71,557 emergency relief funds.
31. Includes $73,465 emergency relief funds.
32. Excludes $263,900 contributed funds in accordance with the Tri-party Agreement for construction of a sanitary system for public use.
33. Includes $11,588 emergency relief funds.
34. Includes $15,000 for deferred maintenance.
35. Excludes $1,300,298 for previous projects.
36. Excludes $1,407,918 for previous projects.

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
1.		**BALTIMORE HARBOR AND CHANNELS, MD and VA**	
	Aug 8, 1917	Branch channel 35 feet deep to head to Curtis Bay, and one 35 feet deep and 400 feet wide Fort McHenry to Port Covington entrance channel, thence 150 feet wide to Ferry Bar, and thence 27 feet deep and 150 feet wide to Hanover Street Bridge, widen approaches and bends, and enlarge anchorage basin near entrance. Inclusion of Patapsco River and tributaries into one project for Baltimore Harbor.	H. Doc. 799, 64th Cong., 1st Sess.
	Jan 21, 1927	Change in location of anchorage near upper end of Fort McHenry Channel.	
	Jul 3, 1930	Increased anchorage facilities Rivers and Harbors.	Committee Doc. 11, 70th Cong., 1st Sess.
	Jul 3, 1930	For 37-foot depth in that portion of channel to Baltimore lying between 37-foot depth curve near Baltimore Light to Sparrows Point entrance channel; widen angle between Fort McHenry and Ferry Bar section; and for width of 400 feet in Curtis Bay section.	H. Doc. 86, 85th Cong., 1st Sess.
	Oct 17, 1940	For 22-, 18-, and 15-foot channels in Curtis Creek from 22-foot depth below Pennington Avenue Bridge to upper end of marginal wharf of U.S. Ordinance Depot	Adopted as a national defense project. (No printed report.)
	Mar 2, 1945	Uniform main channel 309 feet deep from the ocean through York Spit section and Craighill entrance to Fort McHenry, additional anchorage area, 2,400 feet long, 1,200 feet wide, and 30 feet deep; a connecting channel 400 feet wide and 27 feet deep from Cutoff Brewerton Angle in main channel to Inland Waterway from Delaware River to Chesapeake Bay; a channel in Curtis Creek 200 feet wide and 35 feet deep from head of existing 35-foot project channel in Curtis Bay to a point in the creek about 750 feet below Pennington Avenue Bridge.	H. Doc. 741, 79th Cong., 2nd Sess.
	Mar 2, 1945	A channel 22 feet deep and 200 feet wide from 22-foot depth curve south of Baltimore & Ohio R.R. bridge about 2,800 feet to vicinity of Arundel Cove, thence 100 feet wide in Arundel Cove for about 2,100 feet; with an anchorage basin about 700 feet square adjacent to channel southwesterly of Coast Guard wharf.	In accordance with plans on file in the Office, Chief of Engineers
	Jul 3, 1958	Main channel 42 feet deep and 1,000 feet wide in Cape Henry section at entrance to Chesapeake Bay and in York Spit section; 42 feet deep and 800 feet wide in Rappahannock Spit section and in approach channel to Baltimore Harbor from Craighill entrance to Fort McHenry, with widening at entrance and bends; channels 42 feet deep and 600 feet wide in Curtis Bay and Ferry Bar sections of harbor; a connecting channel 35 feet deep and 600 feet wide from main channel to approach channel to Chesapeake and Delaware Canal; and for three disjointed sections of channels of same depth and width in Chesapeake Bay leading to Chesapeake and Delaware Canal; and to provide Federal maintenance of 39-foot depth in Northwest Branch, in areas dredged to that depth by local interests.	H. Doc. 86, 85th Cong., 1st Sess.
	Dec 31, 1970	Deepening of the Cape Henry Channel to 50 feet at the existing width of 1,000 feet, with widening at bends; deepening of the Spit Channel to 50 feet at the existing width of 1,000 feet, with widening at bends; enlargement of the Rappahannock Shoal Channel to a depth of 50 feet and a width of 1,000 feet; deepening of the main ship channel from Chesapeake Bay to Fort McHenry to a depth of 50 feet at the existing width of 800 feet, with widening at bends and at the Craighill Entrance; deepening of the Curtis Bay Channel to a depth of 50 feet at the existing width of 600 feet, and deepening of the 950-foot wide and 980-foot long turning basin at the head of channel to the same depth; deepening of the Northwest Branch--East Channel to a depth of 49 feet from the depth existing at the time of construction at a width of 600 feet, and deepening of the 950-foot wide and 950-foot long turning basin at the head of the channel to the same depth; and deepening and extension of the Northwest Branch--West Channel to a depth of 40 feet from the depth existing at the time of construction, at a width of 600 feet, and with an irregularly shaped turning basin at the head of the channel 40 feet deep and about 2,000 feet long with a maximum width of 1,150 feet.	H. Doc. 181, 94th Cong., 1st Sess.
	Aug 5, 1999	Dredge a new straight channel 35 feet deep, 600 feet wide, and 2 miles long to replace the existing Tolchester Channel S-Turn off Tolchester Beach.	Water Resources Dev. Act of 1999

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
2.		**BALTIMORE HARBOR ANCHORAGES AND CHANNELS, MD**	
	Aug 17, 1999	Widen and deepen two existing Federal anchorages; widen several connecting channels; provide a new turning basin near Fort McHenry; and provide a new branch channel within the Port of Baltimore.	Chief of Engineers Report dated Jun 8, 1998
3.		**BALTIMORE HARBOR, MD, COLLECTION AND REMOVAL OF DRIFT**	
	Jun 30, 1948	Collection and removal of drift from Baltimore Harbor and its tributary waters.	River and Harbor Act of 1948
4.		**BONUM CREEK, VA**	
	May 12, 1966 Sec. 107 Jul 14, 1960	A channel 60 feet wide and 6 feet deep from that depth in the Potomac River to and including an anchorage basin of the same depth, 160 feet wide and 200 feet long. Protection of the entrance channel on both sides by jetties. The north jetty is about 700 feet long and south jetty is about 300 feet long.	Detailed Project Report, August 1965
5.		**COAN RIVER, VA**	
	Jul 14, 1960	Dredging a new Federal channel approximately 570 feet long with an elevation of –10 MLLW depth plus 1-foot overdepth. The proposed channel width is approximately 60 feet. To protect the new channel, construction of a 485-foot stone jetty is also recommended.	Sec 107 Detailed Project Report, May 2002
6.		**DUCK POINT COVE, MD**	
	Mar 2, 1945	A channel 60 feet wide and 6 feet deep, from that depth in Fox Creek to a mooring basin of same depth, 100 feet wide and 300 feet long, roughly parallel to county road at head of waterway.	H. Doc. 241, 76th Cong., 1st Sess.
7.		**FISHING CREEK, MD**	
	Aug 26, 1937	A channel 7 feet deep with widths of 100 feet and 60 feet from deep water in Chesapeake Bay to an anchorage of the same depth, 120 feet wide and 400 feet long, located in the marsh 500 feet above the mouth of the creek and twin stone jetties at the entrance.	H. Doc. 241, 75th Cong., 1st Sess.
8.		**HONGA RIVER AND TAR BAY, MD**	
	Aug 30, 1935	Channel 60 feet wide and 7 feet deep from the 7-foot contour in Chesapeake Bay through Tar Bay and Fishing Creek to the 7-foot contour in Honga River.	Rivers and Harbors Committee Doc. 35, 74th Cong., 1st Sess.
	Jun 30, 1948	Modification providing for a channel in Back Creek 7 feet deep and 60 feet wide from the 7-foot depth curve in Honga River to a point near the head of Back Creek, with a turning basin of the same depth, 150 feet long and 200 feet wide.	H. Doc. 580, 80th Cong., 2nd Sess.
9.		**KNAPPS NARROWS, MD**	
	Aug 30, 1935	A channel 9 feet deep at mean low water, 75 feet wide, widened at the bends from deep water in Chesapeake Bay in deep water in Harris Creek, MD with a turning basin west of the drawbridge, 7 feet deep at mean low water, about 320 feet long and 120 feet wide. Project channel was authorized by the Public Works Administration September 16, 1933 and later adopted by 1935 River and Harbor Act.	H. Doc. 308, 72nd Cong., 1st Sess.
10.		**MONROE BAY AND CREEK, VA**	
	Jul 3, 1930	A channel 8 feet deep, 100 feet wide, and 950 feet long, through the bar at the entrance, and within the creek a channel 7 feet deep, 100 feet wide, and 2,500 feet long, with turning and anchorage basin 500 feet wide at upper end.	H. Doc. 172 70th Cong., 1st Sess. [2]
11.		**MUDDY HOOK & TYLER COVE, MD**	
	Dec 4, 1964 Sec. 107 Jul 14, 1960	An entrance channel 60 feet wide and 6 feet deep from that depth in Honga River to and including an anchorage basin of same depth, 160 feet wide and 400 feet long, in Fishing Creek into Tyler Cove and includes an anchorage basin 200 feet wide, 250 feet long and 6 feet deep.	Detailed Project Report, May 1964

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
12.		**NANTICOKE RIVER, MD**	
	Aug 30, 1937	A small boat harbor 7 feet deep, 120 feet wide, and 400 feet long in the marsh at Nanticoke with an entrance channel of the same depth and 60 feet wide protected on either side by stone jetties in the river.	H. Doc. 242, 75th Cong., 1st Sess. [2]
13.		**OCCOQUAN CREEK, VA**	
	Dec 5, 1980	Channel 6 feet deep and 100 to 150 feet wide through four bars and construction of dikes.	Annual Report for 1801, p. 1254
	Mar 2, 1907	Extending channel 6 feet deep and 150 feet wide through outer bar.	H. Doc. 190, 59th Cong., 1st Sess. (The latest published map is in H. Doc. 190, 63d Cong., 2d Sess.)
14.		**OCEAN CITY HARBOR AND INLET AND SINEPUXENT BAY, MD**	
	Aug 30, 1935	Construction of an inlet between the Atlantic Ocean and Sinepuxent Bay, 10 feet deep and 200 feet wide, protected by jetties; a channel 8 feet deep and 100 feet wide from the inlet to Ocean City, 6 feet deep and 150 feet wide to Green Point, and 100 feet wide into Chincoteague Bay.	Rivers and Harbors Committee Doc. 38, 72nd Cong., 1st Sess.
	Aug 30, 1935	Modification providing a 10-foot by 100-foot channel from the inlet to the west side of the bay with two turning basins; a channel 6 feet deep and 125 feet wide from the inlet to Ocean City, 6 feet deep and 150 feet wide to Green Point feet wide into Isle of Wight Bay.	Rivers and Harbors Committee Doc. 60, 74th Cong., 1st Sess.
	Sep 3, 1945	Modification providing for raising the north jetty to an elevation 9 feet above mean low water, and a channel 300 feet wide and 16 feet deep from the ocean through the inlet to the Isle of Wight Bay Channel, thence 200 feet to the project harbor, and a depth of 14 feet in the project harbor. Channel depths refer to project datum.	H. Doc. 444, 82nd Cong., 2nd Sess.
15.		**POCOMOKE RIVER, MD**	
	Jun 3, 1896	A 9-foot channel from Shad Landing to Snow Hill.	Annual Report for 1895, p. 1167.
	Aug 30, 1935	A channel 7 feet deep and 100 feet wide from Pocomoke Sound to Pocomoke River.	H. Doc. 227, 74th Cong., 1st Sess. [2] H. Doc. 429, 76th Cong., 1st Sess. [2]
	Mar 2, 1945	Extend channel above bridge at Snow Hill, 100 feet wide, 9 feet deep, widened to 150 feet to form a turning basin at upper end.	H. Doc. 486, 81st Cong., 2nd Sess. [2]
	Sep 3, 1954	Channel 11 feet deep by 150 feet wide from Pocomoke Sound to Tulls Point, thence a channel of the same depth and 100 feet wide to deep water in Pocomoke River above William Point, and dike construction along south side of channel from existing dike to Tulls Point.	
16.		**POTOMAC & ANACOSTIA RIVERS, DC, COLLECTION & REMOVAL OF DRIFT**	
	Oct 27, 1985	Collection and removal of drift from waters of the Potomac and Anacostia Rivers and their tributaries in the Washington, DC area from the head of the tidewater to Mount Vernon. VA.	H. Doc. 286, 89th Cong., 1st Sess.
17.		**POTOMAC RIVER BELOW WASHINGTON, DC**	
	Mar 3, 1899	A channel 24 feet deep and 200 feet wide between mouth at Chesapeake Bay and Giesboro Point at Washington, DC, a distance of 108 miles.	H. Doc. 33, 52nd Cong., 1st Sess.
18.		**PREVENTION OF OBSTRUCTIONS AND INJURIOUS DEPOSITS, BALTIMORE HARBOR, MD**	
	Aug 30, 1935	Continuous patrol and inspection of Baltimore Harbor, Chesapeake Bay, and its tributaries to prevent and detect violations, and issue permits as required for transporting and depositing waste materials in navigable waters. (The project is limited to the tidal waters of Chesapeake Bay and its tributaries that lie within the State of Maryland.)	River and Harbor Act, June 28, 1888 as amended by Public Law 85-802, dated August 29, 1959

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
19.		**RHODES PT TO TYLERTON, MD**	
	Jan 22, 1982	A channel 6 feet deep and 50 feet wide at mean low water from Tylerton to limit of existing Rhodes Point to Tylerton Federal navigation channel, a dis-	Detailed Project Report,
	Sec. 107 Jul 14, 1960	tance of about one-mile, through Sheel Pen Gut to deep water in the Chesapeake Bay.	June 1981
	Sep 3, 1954	A channel 4 feet deep at mean low water and 50 feet wide from Tylerton to Rhodes Point via Rhodes Point Gut.	H. Doc. 51 82nd Cong., 1st Sess. [2]
	Aug 1, 1968 Sec. 107 Jul 14, 1960	Modification providing for a channel 6 feet deep and 50 feet wide from that depth in Tyler Creek to and including an anchorage basin of the same depth 150 feet wide and 400 feet long at Tylerton; channel 6 feet deep and 50 feet wide from that depth in Shanks Creek to and including an anchorage basin of the same depth 100 feet wide and 400 feet long at Rhodes Point' channel 6 feet deep and 50 feet wide from that depth in Big Thorofare River to Tylerton; channel 6 feet deep and 50 feet wide from Rhodes Point to Tylerton.	Detailed Project Report, February 1968
20.		**TILGHMAN ISLAND HARBOR, MD**	
	May 13, 1966 Sec. 107 Jul. 14, 1960	A channel 60 feet wide and 6 feet deep from that depth in Harris Creek to and including two anchorage basins of the same depth, 300 feet by 70 feet and 500 feet by an average width of 110 feet.	Detailed Project Report, August 1965.
	Oct 20, 1980 Sec. 107 Jul 14, 1960	Modification to provide for construction of a breakwater at the harbor entrance.	Detailed Project Report, July 1980
21.		**TALL TIMBERS, MD**	
	Jul 3, 1950	Provides for an entrance channel 6 feet deep and 60 feet wide a turning basin of irregular shape and 6 feet deep, and riprap stone jetties on the upstream and and downstream sides of the entrance channel 770 and 650 feet long, respectively. The project length is 1,630 feet.	H. Doc. 159 84th Cong., 1st Sess [2]
	May 7, 1986 Sec. 111	Constructing 250 feet of beachfill, 2,187 linear feet of stone revetment, and upgrading 350 feet of existing revetment along the Tall Timbers waterfront.	Detailed Project Report July 18, 1985
22.		**TWITCH COVE AND BIG THOROFARE, MD**	
		A channel 4 feet deep and 25 feet wide from Tangier Sound into Big Thorofare River, and one of same dimensions around point between said river and Tyler River.	H. Doc. 285, 62nd Cong., 2nd Sess.
23.		**UPPER THOROFARE DEAL ISLAND, MD**	
	Aug 30, 1935	A 9-foot channel 75 feet wide protected by breakwater at entrance, with turning basin at inner end and anchorage area 6 feet deep and 150 foot wide.	Rivers and Harbors Commitee Doc. 37, 72nd Cong., 1st Sess.
	Aug 26, 1937	Widen entrance channel to 100 feet, extend 9-foot turning basin an 6-foot anchorage, and dredging an additional anchorage area on north side of channel.	H. Doc. 76, 75th Cong., 1st Sess.
24.		**WASHINGTON HARBOR, DC**	
	Aug 30, 1935	Provides for: (a) Virginia Channel, from Giesboro Point to area for 25,000 square feet; (b) Washington Channel, from Haines Point to head of Washington Channel, 24 feet deep and 400 feet wide; (c) Anacostia River from Giesboro Point to Anacostia Bridge, 24 feet deep and 400 feet wide, with turning basin 800 feet wide and about 2,400 feet long of same depth opposite Naval Weapons Plant, (d) Anacostia River from Anacostia Bridge 24 feet deep and 200 feet wide to turning basin 400 feet square of same depth at foot of 15th Street SE Channel lengths including turning basins are: Virginia Channel, 25,000 feet; Washington Channel, 10,000 feet; and Anacostia River, 15,000 feet; and (e) operation and maintenance of inlet gates and lock and outlet gates of Tidal Basin constructed under a previous project to flush Washington Channel.	Rivers and Harbors Committee Doc. 22, 74th Cong., 1st Sess .

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
25.		**WICOMICO RIVER, MD**	
	Sep 19, 1890	Channel 9 feet deep from Main Street Bridge to about 2 miles below.	H. Doc. 20, 51st Cong., 1st Sess., and Annual Report 1890, p. 947
	Jun 25, 1910	Extend 9-foot depth into north prong from Main Street Bridge to the Salisbury Dam and turning basin.	H. Doc. 569, 61st Cong., 2nd Sess.
	Mar 2, 1919	Extend 9-foot depth into south prong to head of navigation at Cathell Street, including a turning basin, and extend project down to mouth of river in Monie Bay.	H. Doc. 1509, 63rd Cong., 3rd Sess.
	Jul 3, 1930	A 12-foot channel below the Main Street Bridge.	
	Aug 26, 1937	A 14-foot channel, 150 feet wide; depths of 14 feet in the north and south prongs and a basin 6 feet deep at Webster Cove and approach channel thereto of the same depth.	Senate Committee Print, 75th Cong., 3rd Sess. [2]
	Sep 3, 1954	Enlarge existing basin at Webster Cove, by dredging an extension 6 feet deep, 100 feet wide, and 200 feet long on each side of existing basin to form a T-shaped harbor.	H. Doc. 619, 81st Cong., 2nd Sess. [2]
28.		**ASSATEAGUE ISLAND, MD**	
	Oct 12, 1996	Provides for expediting the Assateague Island restoration feature of the Ocean City, Maryland and vicinity study with a Federal appropriation limit of $35 million.	P.L. 104-303
29.		**ATLANTIC COAST OF MARYLAND**	
	Nov 17, 1986	Consists of a dune beginning at 27th Street extending north to the Delaware line; a steel sheetpile bulkhead from 27th Street south to Fourth Street; and widened and raised beach from Third Street to just beyond the Delaware line.	Report of the Chief of Engineers dated Sept. 29, 1981 Energy Water Dev. Approp. Act
	Sep 29, 1989	Modification reauthorized the project at a higher project cost determined by Section 902 of the Water Resources Development Act of 1986.	District Engineer's Post Authorization Notification Report 1989
31.		**CUMBERLAND, MD, AND RIDGELEY, WV**	
	Jun 22, 1936	Levees, retaining walls, movable dam, and channel clearing for Cumberland, West Cumberland and South Cumberland, MD and Ridgeley, WV.	H. Doc. 101, 73rd Cong., 1st Sess.
	Jul 24, 1946	Levees, wall, channel improvement, remove Chesapeake and Ohio Canal Dam and construct new industrial dam.	Report on file in Office, Chief of Engineers
32.		**JENNINGS RANDOLPH LAKE, MD AND WV**	
	Oct 23, 1962	Construction of Bloomington Lake project.	H. Doc. 469, 87th Cong., 2nd Sess.
33.		**LACKAWANNA RIVER BASIN, PA**	
	Oct 23, 1962	Construction of Aylesworth Creek Lake, Fall Brook Lake, and local protection works on Lackawanna River at Scranton, Pennsylvania	S. Doc. 141, 87th Cong., 2nd Sess.
35.		**LYCOMING FLOOD WARNING SYSTEM, LYCOMING COUNTY, PA**	
	Jun 30, 1948, as amended	Design and implementation of a flood warning system for Lycoming County, Pennsylvania.	Sec. 205 PL 80-858 Authorized by Detailed Project Report, Dec 2001

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
36.		**MOOREFIELD, WV**	
	Nov 28, 1990	Levee, floodwall, closures, relocations, and improvements to the flood warning system.	Report of the Chief of Engineers dated July 23, 1990
	Sep 30, 1996	Authorization limit increase.	P.L. 104-206
37.		**OLYPHANT, LACKAWANNA RIVER, PA**	
	Oct 31, 1992	Provides for 3,800 feet of earth levee, 1,400 feet of concrete floodwall, a closure structure, interior drainage facilities, 1,500 feet of gabion slope protection and asscociated cultural mitigation and environmental restoration.	Report of the Chief of Engineers dated June 29, 1992
	Dec 1, 2003	Increasing project authorization to $23,000,000.	P.L. 108-137
38.		**RAYSTOWN LAKE, RAYSTOWN BRANCH, JUNIATA RIVER, PA**	
	Oct 23, 1962	Construction of dam and appurtenant facilities.	H. Doc. 565, 87th Cong., 2nd Sess.
39.		**LACKAWANNA RIVER, SCRANTON, PA**	
	Oct 31, 1992	Provides for 5,800 feet of earth levee, 1,700 feet of concrete floodwall, 3 closure structures, interior drainage facilities, 2,700 feet of gabion slope protection, an improved flood warning system, removal of a railroad bridge, access ramp, and associated cultural mitigation.	Report of the Chief of Engineers dated June 29, 1992
	Modified by Act of Oct 12, 1996	Directs Secretary to carry out the project for Plot and Green Ridge sections and allows non-Federal interest to participate in the financing of the project in accordance with Section 903(c) of WRDA 86.	P.L. 104-303
40.		**OCEAN PINES, WORCESTER COUNTY, MD**	
	Oct 12, 1996	Restoration of 6.3 acres of filled salt marsh to tidal salt marsh.	Ecosystem Restoration Report
41.		**WILLIAMSPORT, PA - HAGERMAN'S RUN**	
	Oct 13 1997	Directs the Secretary of the Army to use $225,000 to construct necessary repairs to the flume and conduit for flood control at the Hagerman's Run project.	P.L. 105-62
42.		**WV & PA FLOODING PROGRAM**	
	Oct 12, 1996	Provides for design and construction of structural and non-structural flood control, streambank protection, stormwater management and channel clearing and modification measures in the West Branch Susquehanna River and Juniata River Basins in Pennsylvania.	P.L. 104-303
	Aug 17 1999	Requires flood protection not less than 100-year level for measures that incorporate levees or floodwalls.	P.L. 106-53
43.		**SOUTHERN NEW YORK FLOOD CONTROL PROJECTS**	
	Jun 22, 1936 modified by Acts of Jun 28, 1938 Aug 18, 1941; Dec 22, 1944; May 17, 1950; and Jul 3, 1958	Construction of detention reservoirs and related flood control works for protection of Binghamton, Hornell, Corning and other towns in New York and Pennsylvania.	H. Doc. 702, 77th Cong., 2nd Sess.

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
44.		**STILLWATER LAKE, LACKAWANNA RIVER, PA**	
	Aug 18, 1941	Construction of a flood control reservoir.	H. Doc. 702, 77th Cong., 2nd Sess.
45.		**SUSQUEHANNA RIVER FLOOD CONTROL PROJECTS, NY AND PA**	
	Jul 3, 1958	Construction of Cowanesque and Tioga-Hannond reservoirs, local flood protection works at Elkland, PA, and Nichols, NY and channel improvement at	H. Doc. 702, 77th Cong., 2nd Cortland, NY. Sess.
	Oct 22, 1976	Modification in connection with the construction of Cowanesque Lake to relocate the Town of Nelson, PA, to a new townsite.	H. Doc. 394, 84th Cong., 2nd Sess.
	Mar 1, 1983	Modification of Cowanesque Lake to include water supply as provided by Section 4 of the Flood Control Act of 1944 (PL 78-534) and Section 301 of Water Supply Act of 1958 (PL 85-500).	
46.		**WEST BRANCH OF SUSQUEHANNA RIVER, PA**	
	Sep 3, 1954	Construction of three flood control reservoirs.	H. Doc. 29, 84th Cong., 1st Sess.
47.		**WYOMING VALLEY, PA (LEVEE RAISING)**	
	Nov 17, 1986	Modification provides for raising existing levees and floodwalls between 3 and 5 feet, modifying closure structures, relocating utilities and providing some new floodwalls and levees to maintain the integrity of the existing flood control system.	Report of the Chief of Engineers dated October 19, 1983
	Oct 12, 1996	Modification to include as part of the construction of the project mechanical and electrical upgrades to stormwater pumping stations. The second modification is for the non-Federal sponsor to carry out mitigation measures that the Secretary would otherwise be authorized to carry out.	PL 104-303 Sec. 346
48.		**YORK, INDIAN ROCK DAM, PA**	
	Jun 22, 1936	Construction of Indian Rock Dam and channel improvements on Codorus Creek.	H. Doc. 702, 77th Cong., 2nd Sess.
52.		**ANACOSTIA RIVER AND TRIBUTARIES, MD AND DC**	
	Oct 12, 1996	The project consists of two wetland restoration sites in the District of Columbia, one stream restoration site and one stormwater wetland site in Prince George's County, and nine stream restoration and stormwater wetland sites in Montgomery County. The project will restore a total of 80 acres of tidal and non-tidal freshwater wetlands, 5 miles of piedmont streams, and 33 acres of bottomland hardwood forest within the highly urbanized Anacostia River watershed.	Report of the Chief of Engineers, dated November 15, 1994
53.		**CHESAPEAKE BAY OYSTER RECOVERY, MD**	
	Nov 17,	Contributes to multi-agency and private efforts to restore oyster populations in the Maryland portion of the Chesapeake Bay.	P.L. 99 - 662
	Oct 12, 1996	Modification by inserting "and Virginia" after "Maryland" and increased program Authorization to $7 million.	P.L. 104-303
	Dec 11, 2000	Increased program authorization to $20 million.	P.L. 106-541 Sec. 342
54.		**CHESAPEAKE BAY ENVIRONMENTAL RESTORATION**	
	Oct 12, 1996	Establishes a pilot program to provide environmental design and construction assistance to new Federal interests in the Chesapeake Bay watershed.	P.L. 104-303
55.		**HART MILLER ISLAND, MD**	
	Nov 17, 1986	Provide avian habitat and significantly improve regional wildlife habitat diversity in the northern Chesapeake Bay. Restoration of the south cell of the existing placement site includes approximately 180 acres of wetlands and mudflats for shorebird habitat, a one-acre nesting island, and 118 acres of upland for songbird habitat.	Sec. 1135 PL 99-662 Authorized by Detailed Project Report, Sep 1998

TABLE 4-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
56.		**NORTHEAST PENNSYLVANIA, PA**	
	Oct 31, 1992	Establishes a pilot program for water-related environmental infrastructure and resource protection and development projects, including waste water treatment and related facilities and water supply, storage, treatment, and distribution facilities. Such assistance may be in the form of technical and planning and design assistance.	Water Resources Dev. Act of 1992
	Aug 17, 1999	Provides construction assistance of $20,000,000 for water related infrastructure in the counties of Lackawanna, Lycoming, Susquehanna, Wyoming, Pike, Wayne, Sullivan, Bradford, and Monroe, PA, including assistance for the Mountoursville Regional Sewer Authority, Lycoming Country, PA.	Water Resources Dev. Act of 1999 Sec. 502(f)(11), P.L. 106-53
57.		**ROOSTER ISLAND, MD**	
	Nov 17, 1986	Restoration plan includes construction of a 2,100-foot breakwater to protect the exposed northern side of the island. The plan also includes a groin field to stabilize the leeward side of the restoration and placement of about 28,000 cubic yards of fill at the island which will be planted with wetland vegetation.	Sec. 1135 PL 99-662 Authorized by Detailed Project Report, Nov. 1995
58.		**POPLAR ISLAND, MARYLAND**	
	Oct 12, 1996	The project consists of reconstructing Poplar Island to its approximate size in 1847 (1,110 acres), using an estimated 38 million cubic yards of uncontaminated dredged material from maintenance dredging of the southern approach channels of the Baltimore harbor and Channels navigation project.	Report of the Secretary of the Army, dated September 3, 1996
	Dec 11, 2000	Modification that the non-Federal share of the cost of a project may be provided in cash or in the form of In-kind-services or materials.	P.L. 106-541
59.		**SOUTH CENTRAL PA ENVIRONMENTAL IMPROVEMENT PROGRAM**	
	Oct 31, 1992	Pilot program for providing environmental assistance to non-Federal interests in South Central Pennsylvania.	P.L. 102-580
	Modified by Acts of Nov 13, 1995	Expanded scope to include 15 counties; increased program authorization limits to $50 million; provided for non-Federal sponsor credit for design and construction prior to PCA execution; allowed for Federal share of project costs to be provided in the form of grants or reimbursement of project costs; and provided the non-Federal sponsors to receive credit for reasonable interest to provide non-Federal share of project's cost.	P.L. 104-46
61.		**DEEP RUN/TIBER HUDSON, MD**	
	Oct 12, 1996	Provide aquatic ecosystem restoration and protection improving the quality of the environment. The recommended plan included implementation of 12 projects, which include 2 stormwater management ponds, 3 wetland creation sites, and 7 steam restoration sites.	Sec. 206 PL 104-303 Authorized by Detailed Project Report, Jul 1999
62.		**DENTS RUN, PA**	
	Oct 12, 1996	An aquatic ecosystem restoration and protection project if the Secretary determines that the project will improve the quality of the environment and is in the public interest.	Detailed Project Report, Oct. 2001
63.		**ISLE OF WIGHT, MD**	
	Oct 12, 1996	Re-establish salt marsh restoration/shoreline that lies along the southeastern shoreline of the island. Phase I is to provide restoration of intertidal connectivity to provide proper inundation and tidal flushing for 2 existing marshes located shoreward of the project site. Phase II is to follow the maintenance dredging contouring of the dredge material along with 10,000 cubic yards of select marsh fill to approximate desired marsh elevation and configuration within breakwater/fill area.	Sec. 206 PL 104-303 Authorized by Detailed Project Report, Jun 1998
64.		**LITTLE FALLS FISH PASSAGE ,MD**	
	Nov 17, 1986	Reestablish migratory fish access to 10 miles of historic spawning habitat upstream of the Little Falls Dam.	Sec. 1135 P.L. 99-662 Authorized By Detailed Project Report, Apr 1996

TABLE 4-B AUTHORIZING LEGISLATION

1. Exclusive of portion considered inactive. Inactive portion is widening 35-foot depth channel from 150 to 400 feet from Port Covington to Ferry Bar, widening 27-foot depth channel from 150 to 250 feet to Hanover Street Bridge, and providing a channel 127 feet deep by 250 feet wide to Western Maryland Railway Bridge with an anchorage and turning basin at the upper end.
2. Contains latest published maps.
3. Included in Public Works Administration program September 16, 1993. The site chosen for the inlet under this authorization was opened just south of Ocean City by natural forces during a severe storm in August 1933. This eliminated the necessity for an 8-foot channel from the inlet to Ocean City.
4. Included in Emergency Relief Program 1935.
5. Raising of the north jetty to an elevation of 9 feet above mean low water was accomplished with maintenance funds in 1956.

TABLE 4-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Operation and Maintenance
Accotink Creek, VA[1]	Completed	1878	$ 5,000	$ --
Anacostia River and Flats[2]	Deferred	1953	3,910,582	--
Annapolis Harbor, MD	Completed	1993	34,250[3]	51,366
Aquia Creek, VA	Inactive	1928	52,465[4]	11,770
Back Creek, MD	Completed	1946	23,061	41,378
Black Walnut Harbor, MD	Completed	1982	32,631	431,478
Branson Cove, Lower Machodoc River, VA	Completed	1950	15,755	35,684
Breton Bay, MD[6]	Completed	1950	47,924[5]	47,593
Broad Creek, River, DE	Completed	1964	65,510[6]	
Cambridge Harbor, MD	Completed	1993	195,974[7]	946,934
Chester River, MD	Completed	2003	70,495	864,155[8]
Chester River, Bodkin Island, MD	Deferred	2000	67,000	0
Choptank River, MD[9]	Completed	1979	96,796	104,230
Claiborne Harbor, MD[1]	Deferred	1987	42,974	709,047
Colonial Beach, VA	Completed	2003	41,200	
Corsica River, MD	Completed	1948	39,071[10]	134 770
Crisfield Harbor, MD	Completed	2003	416,736[11]	1,923,394
Cypress Creek, MD	Completed	1947	3,057	14,729
Elk and Little Elk Rivers, MD[12]	Completed	1932	90,121[13]	53,808[14]
Fishing Bay, MD	Completed	1998	34,074[15]	2,161,260
Goose Creek, MD[16]	Completed	1973	75,900	22,013
Herring Bay & Rockhold Creek, MD	Completed	2003	133,337	1,657,824
Herring Creek, MD	Completed	1989	1,506,259	1,124,317
Hudson Branch, Howard County, MD	Completed	2002	1,406,838	
Isle of Wight Bay, MD	Completed	2002	1,300,298	
Knapps Narrows, MD	Completed	2001	23,836	1,207,831
LaTrappe, MD	Completed	1980	8,064[17]	40,475
Little Creek, Kent Island, MD	Completed	1958	23,000[18]	7,327
Little Wicomico River, MD	Completed	2002	81,886	2,882,531
Loch Haven, PA	Completed	2001	55,323,950	6,878,038
Lowes Wharf, MD	Completed	1986	2,100	327,530
Lower Machodoc Creek, VA	Completed	1904	9,916	30,432
Lower Thorofare, Deal Island, MD	Completed	2000	1,832,411	1,264,372
Madison Bay, MD[16]	Completed	1977	125,550	42,643
Manokin River, MD[19]	Completed	1919	34,788[20]	43,534
Middle River and Dark Head Creek, MD	Completed	1947	38,715[21]	96,785
Muddy Hook Tyler Coves, MD	Completed	1996	64,001	687,568
Nan Cove, MD[4]	Completed	1965	34,861[22]	33,138
Nanticoke River at Bivalve, MD	Completed	1983	240,817	142,131
Neale Sound, MD	Completed	2003	73,243[23]	945,585
Neavitt Harbor, MD[16]	Completed	1968	36,500	45,019
Nomini Bay and Creek, VA[24]	Completed	1946	78,446	42,063
Northeast River, VA	Completed	2002	28,489	1,816,146
Parish Creek, MD	Completed	1988	19,170[26]	533,808
Patuxent River, MD[12]	Completed	1905	14,000[27]	---
Petersburg, WV	Completed	2001	18,554,009[39]	0
Potomac River at Mount Vernon, MD	Completed	2003	17,000	1,926,137
Potomac River at Alexandria, VA	Completed	2001	95,214	1,957,668
Potomac River - Aquatic Plant Control, MD, VA, and DC	Completed	1998	2,363,589	292,116
Potomac River and Tributaries at and below Washington, DC, Elimination of Waterchestnut	Completed	1977	--	184,394
Potomac River at Lower Cedar Point, MD	Completed	1920	10,234	6,216
Potomac River North Side of Washington Channel, DC[1]	Completed	1956	1,744,692[28]	27,461[29]
Queenstown Harbor, MD	Completed	1985	72,858[30]	321,803
Rock Hall Harbor, MD	Completed	1998	1,072,500[31]	457,157
Shad Landing State Park, MD	Completed	1966	33,531	19,198
Shallow Creek, MD	Completed	1989	1,137,692	523,792
Slaughter Creek, MD	Completed	1994	4,140	682,983
St. Catherine's Sound, MD	Completed	1989	29,947[32]	659,369
Potomac River and Tributaries at and below Washington, DC, Elimination of Waterchestnut	Completed	1977	---	184,394
Potomac River at Lower Cedar Point, MD	Completed	1920	10,234	6,216
Potomac River North Side of Washington Channel, DC[1]	Completed	1956	1,744,692[28]	27,461[29]

TABLE 4-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Operation and Maintenance
Queenstown Harbor, MD	Completed	1985	72,858 [30]	321,803
Rock Hall Harbor, MD	Completed	1998	1,072,500 [31]	457,157
Shad Landing State Park, MD	Completed	1966	33,531	19,198
Shallow Creek, MD	Completed	2002	1,137,692	523,792
Slaughter Creek, MD	Completed	1994	4,140	682,983
St. Catherine's Sound, MD	Completed	1989	29,947 [32]	659,369
St. George's Creek, MD	Completed	1985	147,650	---
St. Jerome's Creek, MD	Completed	1991	44,357 [33]	756,360
St. Michael's Harbor, MD [16]	Completed	1964	16,723 [32]	35,666
St. Patrick's Creek, MD	Completed	1987	15,752	151,849
St. Peter's Creek, MD [16]	Completed	1963	46,740 [34]	41,223
Smith Creek, MD	Completed	1936	5,252	16,448
Susquehanna River above and below Havre De Grace, MD	Completed	1985	293,570 [35]	859,051
Susquehanna River at Williamsport, PA [16]	Completed	1974	57,031 [36]	41,437
Tilghman Island Harbor, MD	Completed	1996	424,800	464,788
Tedious Creek, MD	Completed	1998	2,330,013	0
Town Creek, MD	Completed	1950	43,220	62,386
Tred Avon River, MD	Completed	1994	523,310	927,949
Tuckahoe River, MD	Completed	1980	9,727	23,489
Tyaskin Creek, MD	Completed	1923	19,297 [37]	54,302
Upper Machodoc Creek, VA	Completed	1971	20,281	34,777
Warwick River, MD	Completed	1984	22,041 [38]	148,728

1. Unconstructed portion of the project was deauthorized August 5, 1977.
2. Project deferred for restudy.
3. Includes $8,476 for previous projects.
4. Includes $31,065 for previous projects.
5. Includes $37,500 for previous projects.
6. Includes $50,000 for previous projects.
7. Excludes $3,998 contributed funds and includes $61,321 for previous projects.
8. Includes $40,041 for previous projects.
9. Authorization for the unconstructed portion of the project was withdrawn by the Chief of Engineers January 22, 1979.
10. Includes $30,000 for previous projects.
11. Includes $87,741 for previous projects.
12. Unconstructed portion of the project was deauthorized November 2, 1979.
13. Includes $79,626 for previous project and excludes $8,414 contributed funds.
14. Includes $24,321 for previous projects.
15. Includes $2,840 for previous projects.
16. Authorized by Chief of Engineers.
17. Excludes $10,306 contributed funds.
18. Excludes $1,100 contributed funds.
19. Abandonment recommended in 1926 (H. doc. 467, 69th Cong., 1st Sess.)
20. Includes $2,000 expended outside project limits.
21. Excludes $111,581 expended by Navy Department and $52,000 from contributed funds.
22. Excludes $565 contributed funds.
23. Excludes $1,000 contributed funds.
24. Unconstructed portion of the project was deauthorized November 6, 1977.
25. Includes $25,000 for previous projects.
26. Includes $19,170 Works Progress Administration funds.
27. Includes $10,617 for previous projects.
28. Excludes $389,000 contributed funds.
29. Excludes $101,162 Public Health Service funds expended for waterchestnut removal.
30. Includes $19,000 for previous projects.
31. Excludes $672,880 contributed funds.
32. Excludes $600 contributed funds.
33. Includes $26,500 for previous projects.
34. Excludes $6,984 contributed funds.
35. Unconstructed portion of the project was deauthorized November 6, 1977. Includes $22,905 Works Progress funds and $97,390 for previous projects.
36. Excludes $40,000 contributed funds.
37. Excludes $10,158 contributed funds.
38. Includes $6,000 for previous projects.
39. Excludes $80,000 contributed funds.

TABLE 4-D OTHER AUTHORIZED BEACH EROSION CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Operation and Maintenance
Oxford, MD [1]	Complete	1978	97,750 [2]	---
Punch Island Road, MD	Complete	1996	199,105	---
Town of North Beach, MD	Complete	1995	450,610 [3]	---

1. Authorized by Chief of Engineers.
2. Excludes $80,648 contributed funds.
3. Excludes $245,262 contributed funds.

TABLE 4-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	Status	For Last Full Report See Annual Report	Cost to September 30, 2003 Construction	Operation and Maintenance
Anacostia River and Tributaries Flood Protection and Navigation Improvements, DC and MD	Completed	1995	$ 6,042,325	$3,735,979 [1]
Anacostia River and Tributaries, Prince Georges Co., MD [2]	Completed	1977	1,000,000 [3]	---
Bainbridge, NY [3,4]	Completed	1959	382,000	---
Bath, NY [5]	Completed	1970	638,332	---
Bayard, WV [4]	Completed	1965	55,218 [6]	---
Black Walnut Point, MD	Completed	1985	200,500	---
Bridgewater, VA [4]	Completed	1953	136,500	---
Broad Top Region, PA	Completed	2003	4,732,874	---
Bull Run, PA	Completed	1984	2,742,000	---
Chesapeake Bay at Hoopersville Road, MD	Completed	1993	156,491 [7]	---
Conklin-Kirkwood, NY [4]	Completed	1955	71,000	---
Cortland, NY [8]	Completed	1970	324,486	---
Dickson City, (Olyphant), PA	Completed	2003	1,000,000	1,178,137
Elkland, PA	Completed	1971	1,297,850	---
Endicott Johnson City and Vestal, NY	Completed	1979	7,034,534 [9]	---
Forest Heights, MD [4]	Completed	1964	430,000 [10]	---
Fourmile Run, VA	Completed	1987	52,480,000	---
Hills Point Road, Dorchester Co., MD [3]	Completed	1989	186,077	---
Greene, NY [4]	Completed	1951	37,000	---
Kingston-Edwardsville, PA	Completed	1979	4,731,394 [11]	---
Kitzmiller, MD	Completed	1965	501,500 [12]	---
Latta Brook Rd., NY	Completed	1984	115,500	---
McCready's Point Road, MD	Completed	1993	74,019 [13]	---
Middle Hooper Island, MD	Completed	1993	327,165 [14]	---
Neabsco Creek, VA	Completed	2003	57,841	2,227,375
Nichols, NY	Completed	1974	1,487,800	---
Norwich, NY [4]	Completed	1950	94,500	---
Painted Post, NY [5]	Completed	1970	414,181	---
Paxton Creek, Harrisburg, PA	Completed	1998	48,509 [15]	---
Plymouth, PA	Completed	1958	1,911,689 [16]	---
Savage River Dam, MD	Completed	1954	2,271,939 [17]	33,999
Scranton, PA [18]	Completed	1971	2,006,800	---
Spring Brook Creek, Pittston Township, PA	Completed	1993	425,960 [19]	---
Solomon Creek, Ashley Borough, Luzerne County, PA	Completed	1993	70,441 [20]	---
Solomons Island, Calvert County, MD	Completed	1993	126,049 [21]	---
Sunbury, PA	Completed	1953	6,063,000 [22]	---
Swoyersville-Forty Fort, PA	Completed	1968	2,728,113	---
Tunkhannock Creek, Tunkhannock, PA	Completed	1991	174,491 [23]	---
Tyrone, PA [24]	Deferred	1980	6,401,016	---
Unadilla, NY	Completed	1970	1,000,000 [25]	---
Upper Marlboro, MD [4]	Completed	1965	590,013	---
Verona Lake, VA [26]	Deferred	1978	992,000	---
Washington, DC and Vicinity	Completed	1953	331,927 [27]	---
Wilkes-Barre, Hanover Township, PA	Completed	1958	3,853,457 [28]	---
Williamsport, PA	Completed	1979	12,964,893 [29]	---
Wyoming Valley, PA	Completed	1987	25,549,098	---

TABLE 4-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

1. Includes $49,998 emergency relief funds.
2. Local interests will not accept opeartion and maintenance responsibility of the project until the severe erosion and sedimentation of the project caused by tropical storm Eloise is cor-rected and the project is restored to design condition.
3. Excludes $357,022 contributed funds.
4. Authorized by Chief of Engineers.
5. Unit of Southern New York Flood Control Projects.
6. Excludes $182,672 Public Works Acceleration funds and $4,290 contributed funds.
7. Excludes $67,954 Contributed funds.
8. Unit of Susquehanna River Flood Control Projects.
9. Excludes $154,694 contributed funds.
10. Excludes $87,720 contributed funds.
11. Includes $1,162,548 emergency relief funds and excludes $225,877 emergency relief funds expended prior to adoption of project.
12. Excludes $6,616 contributed funds.
13. Excludes $42,081 contributed funds.
14. Excludes $137,900 contributed funds.
15. Excludes $14,917 contributed funds.
16. Includes $4,357 emergency relief funds.
17. Includes $200,000 expended from contributed funds.
18. Unit of Lackawanna River Basin Projects.
19. Excludes $126,255 contributed funds.
20. Excludes $25,014 contributed funds.
21. Excludes $51,666 contributed funds.
22. Excludes $140,504 contributed funds.
23. Excludes $53,383 contributed funds.
24. The unconstructed portion of the project was reclassified to the deferred category January 8, 1981.
25. Excludes $132,578 contributed funds.
26. Authorized for the design memorandum state of advanced.
27. Cost of previous project includes $106,500 emergency relief funds.
28. Includes $872,715 emergency relief funds. Excludes $36,375 emergency relief funds expended for new work before adoption of project.
29. Includes $1,887 emergency relief funds and excludes $110,835 contributed funds.

TABLE 4-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Almond Village, NY [1,2]	1970	May 26, 1953 1941 Flood Control Act	$ 24,622 [3]	---
Baltimore Harbor & Channels, MD (Ferry Bar & Spring Garden Channel)	1920	Nov. 17, 1986 1966 Water Res. Dev. Act	787,710	---
Betterton Harbor, MD	1960	Dec. 31, 1989 1986 Water Res. Dev. Act	3,482	---
Breton Bay, MD (1902 River & Harbor Act)	1950	Dec. 31, 1989 1986 Water Res. Dev. Act	10,424	---
Broadwater Creek, MD	1949	Nov. 6, 1977 1974 Water Res. Dev. Act	212	---
Cadle Creek, MD [2]	1949	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Cambridge Harbor, MD (1948 River & Harbor Act)	1989	Dec 31, 1989 1986 Water Res. Dev. Act	---	---
Channel Connecting Plain Dealing Creek and Oak	1940	Aug. 5, 1977 1974 Water Res. Dev. Act.	112	---
Chester River, MD (1873 River & Harbor Act)	1988	Dec. 31, 1989 1986 Water Res. Dev. Act	25,419	---
Coan River, VA	1937	Aug. 5, 1977 1974 Water Res. Dev. Act	---	---
Copes Corner Lakes, NY [2]	1970	May 6, 1981 1974 Water Res. Dev. Act	106,700 [3]	---
Cuckold Creek, MD [4]	1978	Jan 22, 1979 1960 River and Harbor Act	5,720	---
Cunninghill Cove, MD [4]	1977	Jan. 22, 1979 1960 River and Harbor Act	11,200	---
Curwensville Lake (WaterLine), PA [5]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Davenport Center Lake, NY [2]	1970	May 6, 1981 1974 Water Res. Dev. Act	286,400 [3]	---
Endicott, Johnson City, and Vestal (Remedial), NY [5]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Fall Brook Lake, PA [6]	1970	May 6, 1981 1974 Water Res. Dev. Act	46,100	---

TABLE 4-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Genegantslet Lake, NY	1954	May 6, 1981 1974 Water Res. Dev. Act	214,578 [3]	---
Governors Run, MD	1950	Aug. 5, 1977 1974 Water Res. Dev. Act	---	---
Harpers Ferry, WV	1937	Aug. 5, 1977 1974 Water Res. Dev. Act	---	---
Hellens Creek, MD	1950	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Lake Ogleton, MD	1950	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Marsh Creek Bridge, Foster Joseph Sayers Dam, PA 5	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Mill Creek, MD	1949	Nov. 6, 1977 1974 Water Res. Dev. Act	---	---
Moorefield, WV	1941	Oct. 3, 1978 1974 Water Res. Dev. Act	7,928 [3]	---
Neabsco Creek, VA (1881 River & Harbor Act)	1978	Dec. 31, 1989 1986 Water Res. Dev. Act	14,600	---
Ocean City Harbor and Inlet and Sinepuxent Bay, MD (1954 River & Harbor Act)	1989	Dec. 31, 1989 1986 Water Res. Dev. Act	---	---
Pocomoke River, MD (1945 River & Harbor Act)	1989	Dec. 31, 1989 1986 Water Res. Dev. Act	---	---
Pocomoke River, MD & VA (1954 River & Harbor Act)	1989	Dec. 31, 1989 1986 Water Res. Dev. Act	---	---
Saint Georges Creek, MD	1971	Sep. 23, 1986 1974 Water Res. Dev. Act	---	---
Sixes Bridge Lake, MD & PA [7]	1974	Dec. 29, 1981 1974 Water Res. Dev. Act	---	---
South Plymouth Lake, NY	1953	May 6, 1981 1974 Water Res. Dev. Act	100,036 [3]	---
Susquehanna River, Sunbury Closure Structure, PA [7]	---	Nov. 18, 1991 1986 Water Res. Dev. Act	---	---
Tyrone, PA	1980	Nov. 1, 1997 1992 Water Res. Dev. Act	6,401,016	---

TABLE 4-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Waterway from Little Choptank River to Choptank River, MD	1939	Aug. 5, 1977 1974 Water Res. Dev. Act	305	---
West Oneonta Lake, NY [2]	1970	May 6, 1981 1974 Water Res. Dev. Act	189,100 [3]	---

1. Local cooperation withdrawn, project authorization expired May 26, 1958.
2. Unit of Southern New York Flood Control Projects.
3. Cost for preliminary work only.
4. Project authorization was withdrawn by the Chief of Engineers.
5. Project deauthorized by Section 100(A) of Public Law 99-662.
6. Unit of Lakawanna River Basin Projects.
7. Authorized for the design memorandum stage of advanced engineering and design.

TABLE 4-H RECONNAISSANCE AND CONDITION SURVEYS

Project	Date Survey Completed
MARYLAND	
Annapolis Harbor	April 2003
Back Creek	April 2003
Cambridge Harbor	April 2003
Chester River, Bodkin Island	June 2003
Fishing Bay	
Farm Creek	June 2003
Goose Creek	April 2003
Goose Creek, Somerset County	June 2003
McCready's Creek	Apil 2003
Little Creek, Kent Island	February 2003
Middle River and Dark Head Creek	April 2003
Ocean City Harbor and Inlet and Sinepuxent Bay	February 2003
Parish Creek	June 2003
Queenstown Harbor	June 2003
Shallow Creek	June 2003
Slaughter Creek	June 2003
Susquehanna River	
Above and below Havre De Grace	June 2003

TABLE 4-I INSPECTION OF COMPLETED PROJECTS

Project	Date Inspected
MARYLAND	
Anacostia River Basin	October 2003
Cumberland	November 2002
Forest Heights	October 2002
Kitzmiller	November 2002
Upper Marlboro	October 2002
NEW YORK	
Addison	September 2002
Avoca	October 2002
Bainbridge-Newton Creek	October 2002
Bath-Cohocton River	October 2002
Binghamton	October 2002
Canisteo	September 2002
Cincinnatus	October 2002
Conklin-Kirkwood	October 2002
Corning-Monkey Run	October 2002
Cortland	October 2002
Elmira	October 2002
Endicott-Johnson City & Vestal	October 2002
Greene	October 2002
Hornell	October 2002
Latta Brook	October 2002
Lisle	October 2002
Nichols	October 2002
Norwich	October 2002
Owego	October 2002
Oxford	October 2002
Painted Post	October 2002
Port Dickinson	October 2002
Sherburne	October 2002
Unadilla	October 2002
Whitney Point	October 2002
PENNSYLVANIA	
Ashley	October 2002
Elkland	October 2002
Hanover	October 2002
Kingston-Edwardsville	October 2002
Lock Haven	October 2002
Loyalsock	October 2002
Milton	November 2002
Pittston	October 2002
Plymouth	October 2002
Scranton	October 2002
Solomon Creek	October 2002
South Williamsport	November 2002
Sunbury	November 2002
Swoyersville-Forty Fort	October 2002
Tunkhannock	October 2002
Tyrone	October 2002
Wilkes-Barre-Hanover Twp.	October 2002
Williamsport	October 2002

TABLE 4-I INSPECTION OF COMPLETED PROJECTS

Project	Date Inspected
VIRGINIA	
Bridgewater	May 2003
Fourmile Run	October 2002
District of Columbia & MD Projects	October 2002
Anacostia River	October 2002
Washington, DC & Vicinity	October 2002
WEST VIRGINIA	
Bayard	November 2002
Moorefield	November 2002
Petersburg	November 2002
Ridgeley	November 2002

NORFOLK, VA DISTRICT

The district comprises the State of Virginia, except the Potomac, Roanoke, and Ohio River Basins; the entire area on the eastern shore of Virginia except for the project for Pocomoke River, Maryland and Virginia. On the west shore of Chesapeake Bay, all waterways south of Smith Point, VA, at the mouth of the Potomac River except the project for Little Wicomico River, VA. North Carolina, only the Chowan River Basin downstream to and including the mouth of the Meherin River, and the Dismal Swamp Canal Route of the Atlantic Intracoastal Waterway to the Albemarle Sound. West Virginia, only the James River Basin.

IMPROVEMENTS

Tables **Page**

NAVIGATION

1. APPOMATTOX RIVER, VA

Location. This river rises in Appomattox County, VA, flows northeasterly 137 miles, and empties into the James River at Hopewell, VA. The portion under improvement extends from its mouth to Petersburg, VA, a distance of 11 miles, which is the length of the tidal and navigable reach. (See National Ocean Service Chart No. 12251.)

Previous projects. For details see page 469 of Annual Report for 1938.

Existing project. This project provides for a channel 60 to 80 feet wide and 10 feet deep from the mouth of the river to a point 400 feet above Lieutenant Run; thence 80 feet wide and of such depth, not exceeding 10 feet, as can be obtained without rock excavation to the head of navigation at Petersburg; including a turning basin at the mouth of Lieutenant Run 410 feet long, 80 to 140 feet wide, and 10 feet deep. All depths are referred to mean low water.

The project also provides for a dam at Petersburg and the excavation for a width of from 200 to 300 feet of a diversion channel connecting the river above the dam with the river at a point 2.5 miles below; for about 1.7 miles of levees on the low grounds between the navigable and the diversion channels; for a highway bridge and a railway bridge across the diversion channel; and for other work incidental to the diversion channel.

Under ordinary conditions the mean tidal range is 2.9 feet and the extremes 2.4 and 3.3 feet. There are no records available of the heights of stage due to ordinary floods. These are estimated at 6 to 8 feet above mean low water at Petersburg, where the extremes are from 15.6 feet to 17.1 feet.

Local cooperation. Fully complied with. City of Petersburg, VA is the local sponsor. For details, see page 212 of Annual Report for 1969.

Terminal facilities. There are about 2,500 feet of wooden bulkhead and a shore landing in Petersburg Harbor. These facilities are in an abandoned, dilapidated condition and have not been used by commercial traffic on the river since 1950. There are two large recreational facilities now in operation on the Appomattox River. One is located about 2 miles downstream from Petersburg, VA and the other is at Hopewell, VA near the confluence of the Appomattox and the James. There is also a sand and gravel loading facility at Puddledock, located about 3 miles downstream from Petersburg, VA.

Operations during fiscal year. Work consisted of performing engineering, design, environmental analyses, soil borings, surveys and numerical modeling. Work also consisted of coordination and technical assistance to the City of Petersburg in its efforts to secure a site for placing contaminated dredged material.

2. ATLANTIC INTRACOASTAL WATERWAY BETWEEN NORFOLK, VA, AND ST. JOHNS RIVER, FL (NORFOLK DISTRICT)

Location. Two inland water routes approximately paralleling Atlantic coast south of Norfolk, VA ,between a point in

Southern Branch of Elizabeth River, VA, 2,500 feet upstream of Norfolk & Western Railway bridge and Virginia-North Carolina state line in North Landing River, a distance of 27.2 miles; and 64.6 miles between mouth of Deep Creek, VA, and mouth of Pasquotank River, NC. These routes are shown on National Ocean Service Chart 12206.

Existing project. A channel 12 feet deep at mean low water and 90 to 250 feet wide following southern Branch of Elizabeth River, 5.2 miles, Virginia Land Cut, 8.3 miles, and North Landing River, 13.7 miles; and construction of tidal guard lock at Great Bridge, VA. It also provides channels 10 feet deep at mean low water and 90 to 100 feet wide in Deep Creek, 3.1 miles, Turners Cut, 4.3 miles and Pasquotank River, 35.1 miles; maintaining Dismal Swamp Canal, 22.1 miles, to about 9 feet deep mean canal level over a width of 50 feet; protection of banks in Turners Cut with sheet piling, and cutting curtain sharp points in Pasquotank River to shorten its course. Project includes operating and care of completed locks, dams and bridges. Southern Branch of Elizabeth River and Deep Creek sections of the two routes are tidal, mean range being about 3 feet with extremes of minus 3.5 and plus 9.6 feet. Remaining sections are non-tidal with fluctuations of 1 to 2 feet in level due to winds.

Local cooperation. None required.

Terminal facilities. Existing facilities are considered adequate. See Annual Report for FY 1970.

Operations during fiscal year. Work consisted of operation and operational maintenance of the locks, bridges, spillways, wharves, canal equipment, grounds, roadways, and buildings along Norfolk District's portion of the Atlantic Intracoastal Waterway. All work was performed by contract. Additional contracts were awarded to dredge Deep Creek Channel along the Dismal Swamp Canal and repair the pile supports to the North Landing Bridge in the Albemarle and Chesapeake Canal.

3. ATLANTIC INTRACOASTAL WATERWAY (AIW) BRIDGE REPLACEMENT, DEEP CREEK, CHESAPEAKE, VA

Location. Deep Creek, located in southeastern Virginia within the City of Chesapeake, is the northern terminus of the Dismal Swamp Canal (DSC). The DSC is a portion of the Atlantic Intracoastal Waterway (AIW) that connects the Southern Branch of the Elizabeth River at Deep Creek to the Pasquotank River at South Mills, North Carolina, via Turner's Cut, covering a distance of 64.6 miles. The route of the AIW, extending from New Jersey to Florida, passes through the harbor of Baltimore, Maryland; Norfolk Harbor, Virginia; and down the Southern Branch of the Elizabeth River, to the tidal river Deep Creek, a tributary to the Southern Branch, down to the Deep Creek Locks where the DSC begins. The canal is generally oriented north-south.

Existing projects. Atlantic

Intracoastal Waterway Bridge at Deep Creek, Virginia, is Federally owned and Corps operated facility that is functionally obsolete because of its narrow roadway and poor alignment with the connection roads, compounded by increasing traffic volumes. This project is to replace the existing structure in conjunction with the city's and the Commonwealth of Virginia's plans to improve the road system in this area. The new bridge will be a split leaf pit bascule consisting of a 2-lane leaf (eastbound) and a 3-lane leaf (westbound). Once completed, the local sponsor will assume ownership of the bridge and take over operation and maintenance.

Local cooperation. Complied with except that the entire project through construction will be Federally funded. Upon completion of construction, the bridge will be turned over to the City of Chesapeake, Virginia, for operation and maintenance.

Operations during fiscal year. Work consisted of continuing Preconstruction Engineering and Design (PED).

4. ATLANTIC INTRACOASTAL WATERWAY BRIDGE AT GREAT BRIDGE, VA

Location. The project is located in the city of Chesapeake, in the southeastern portion of VA. The city is bordered by the city of Suffolk on the west, the cities of Norfolk and Portsmouth on the North, the city of Virginia Beach on the east, and North Carolina on the south. The federally owned Atlantic Intracoastal Waterway highway bridge crosses the Albermarle and Chesapeake Canal in the community of Great Bridge.

Existing project. The plan of improvement includes replacement of the existing 55-year old, U.S. Army Corps of Engineers, 2-lane swing bridge with a 5-lane, double-leaf, rolling-lift bascule bridge, 2000 LF of approach roadway, utility relocations, and removal of the existing bridge. The feasibility report was approved in Jul 94. Pre-construction engineering and design was initiated during FY 95 and completed in FY 97. Project Cooperation Agreement was executed on 22 Nov 99. The construction contract for the bascule bridge was awarded on 13 Jul 01.

Local cooperation. The local sponsor (city of Chesapeake) is required to assume OMRR&R responsibility on project completion in accordance with the provisions described in Section 339 of the National Highway System Designation Act of 1995. (P.L. 104-59)

Operations during fiscal year. Ownership and operation of the bridge will be turned over to the City of Chesapeake, VA, on 1 July 2004. Completion of the roadway construction is schedule for December 2004.

5. BACK RIVER, POQUOSON, VA

Location. Back River is a tidal estuary located within the cities of Poquoson and Hampton, VA. The project channel joins Front Cove with Back River at Messick Point, near the river's confluence

with the Chesapeake Bay. (See National Ocean Service Chart No. 12222.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide from deep water in Back River to the city boat ramp and public landing at Messick Point, a distance of approximately 3,000 feet; also provides a turning basin located adjacent to the boat ramp 100 feet square. Mean tidal range is 2.3 feet.

Local cooperation. Fully complied with. City of Poquoson, VA is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. The Norfolk District coordinated with the City of Poquoson and initiated fiscal close out of the new work construction, completed in May 2002.

6. BENNETT'S CREEK, VA

Location. Bennetts Creek is located on the south shore of the Nansemond River in the City of Suffolk, VA. (See National Ocean Service Chart No. 12248)

Existing project. Provides for a channel 6 feet deep and 60 feet wide over a length of about 1 mile, from the 6-foot contour in the Nansemond River to the 6-foot contour within the mouth of Bennetts Creek, and extending upstream to the city boat ramp at Bennetts Creek Park, a distance of approximately 2.4 miles. Mean range of tide is 2.8 feet.

Local cooperation. Fully complied with. City of Suffolk, VA is the local sponsor.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. The U.S. Army Corps of Engineers Special Purpose Dredge CURRITUCK was used to dredge the entrance channel during July 2003; the dredged material was placed into the Craney Island Rehandling Basin. Additionally, a project condition survey of the channel was performed and distributed to the users.

7. CHANNEL TO NEWPORT NEWS, VA

Location. West of north entrance to Norfolk Harbor Channel, connects deep water in James River with Hampton Roads. (See National Ocean Service Chart No. 12245.)

Existing project. A channel 55 feet deep at mean low water and 800 feet wide from Norfolk Harbor Channel in Hampton Roads to Newport News, a distance of about 5.4 miles, and two deep-draft anchorage berths opposite Newport News 45 feet deep over a 1,200-foot swinging radius. Under ordinary conditions mean tidal range is 2.7 feet and extremes 2.1 and 3 feet. Extremes of irregular fluctuations due to combined wind and tides, referred to mean low water, are minus 2 feet and plus 9.5 feet.

Local cooperation. Fully complied with for dredging the channel to an intermediate depth of 50 feet, which was completed December 2, 1988. The local sponsor (Virginia Port Authority) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended, for additional deepening.

Terminal facilities. See Port Series No. 11, (Revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

Operations during fiscal year. A contract to dredge the 50-foot channel was executed in April and May of 2002; a total of 280,424 cubic yards was removed. A condition survey of the channel and associated anchorages was performed in February 2003.

8. CHINCOTEAGUE BAY, VA

Location. The project is just south of the Maryland state line and provides access to Chincoteague Bay from a public landing and marina at the town of Greenbackville, VA. (See National Ocean Service Chart 12211.)

Existing project. Provides an approach 5 feet deep and 60 feet wide from that depth in Chincoteague Bay to an L-shaped harbor of the same depth, 60 feet wide, and 1500 feet long. The total length is approximately 4200 feet. Mean range of tide is about 0.6 feet. All depths are referred to mean low water.

Local cooperation. Fully complied with

Terminal facilities. Existing facilities are considered adequate for current and prospective traffic.

Operations during fiscal year. Work on the project consisted of condition surveys of the channel.

9. CHINCOTEAGUE INLET, VA

Location. Chincoteague Inlet at the southern end of Assateague Island provides access to the Atlantic Ocean from the inland waterway near the town of Chincoteague, VA. (See National Ocean Service Chart 12211.)

Existing project. Provides for a channel 12 feet deep and 150 feet wide across the ocean bar in the Atlantic Ocean and to the mouth of the inlet, a channel 9 feet deep and 100 feet wide from the inlet through the canal, and then along Chincoteague Channel to a point approximately 2,000 feet north of the state highway bridge to Chincoteague, a distance of about 6.6 miles. Mean range of tide is about 3 feet. All depths are referred to mean low water.

Local cooperation. Fully complied with. For details see Annual Report for 1974.

Terminal facilities. Existing facilities at Chincoteague are considered adequate for current and prospective traffic.

Operations during fiscal year. Maintenance dredging was performed on the inner channel and removed 12,261 cubic yards of material to restore project depths. A project condition survey of the entire project was performed.

10. CRANEY ISLAND EASTWARD EXPANSION FEASIBILITY STUDY, VA

Location. The Craney Island Dredged Material Management Area (CIDMMA) is a man-made dredge containment area located along the south bank of the James River in Portsmouth, Virginia.

Existing project. Authorized in 1946 and constructed between 1956 and 1958, provides a 2,500 acre dredge disposal site for the deposition of dredge spoils from the Hampton Roads inner harbor. The site is owned by the Federal government and operated by the Corps of Engineers, Norfolk District. Project is operated and maintained by the collection of tolls from users. Feasibility study was authorized by a 1997 resolution of the U.S. House of Representatives Committee on Transportation and Infrastructure. Purpose of the study is to investigate an eastward expansion of Craney Island giving specific attention to rapid filling to accommodate anticipated port expansion and to the operation of the existing facility while extending the useful life of Craney Island, and shall take into account all relevant environmental issues and the subsequent transfer of the expanded area to the Commonwealth of Virginia.

Local cooperation. Commonwealth of Virginia is funding 50% of the feasibility study cost.

Terminal facilities. Existing facilities require expansion to meet future dredge material placement needs of the Hampton Roads Port.

Operations during fiscal year. Conduct of feasibility study.

11. DEEP CREEK, NEWPORT NEWS, VA

Location. Deep Creek is a tidal estuary of the James River, lying wholly in the City of Newport News, Virginia. It is about 3 miles in length, flows in a southeasterly direction, and empties into the James River on its northerly side about 10.5 miles upstream from the mouth of the James River. (See U.S. Coast Guard and Geodetic Survey Chart No. 12222.)

Previous projects. For details, see page 360 of Annual Report for 1962.

Existing project. Provides for an approach channel 8 feet deep at mean low water and 100 feet wide extending from the 8-foot depth contour in James River to a point where the natural creek entrance to Deep Creek is constricted, a distance of 9,040 feet; thence 8 feet deep and 60 feet wide through the constricted entrance, a distance of 700 feet. The enlargement of the harbor in Deep Creek opposite Menchville, extending upstream to a point near Parkers Landing and to the foot of Maxwells Lane,

from 6.4 acres to about 20 acres with depth of 8 feet, 400 to 740 feet wide and 1,940 feet long, and a harbor 300 feet 2ide by 500 feet long to a depth of 6 feet upstream of the existing harbor.

Under ordinary conditions the mean tidal range is 3 feet. The extremes of irregular fluctuations referred to mean low water due to the combined effect of wind and tides are minus 2 feet and plus 98 feet.

Local cooperation. Fully complied initial construction under Section 122 of the 1976 Water Resources Development Act. The Secretary of the Army, acting through the Chief of Engineers, is authorized and directed to review the requirement of local cooperation with respect to providing a spoil disposal area for the project and Deep Creek, Warwick County (now within the City of Newport News), Virginia, authorized by the Act of August 26, 1937 (commonly referred to as the River and Harbor Act of 1937, 50 Stat.845), to determine if (1) such requirement should be eliminated, and (2) Craney Island disposal area should be used as the spoil disposal area for dredged material from such project. Such review shall be completed and submitted in a report to congress within two years after the date of enactment of this action.

Beginning on the date of enactment of this section (1) the requirement of local cooperation described in subsection (a) shall be suspended, and (2) Craney Island disposal area shall be used as the spoil disposal area for dredged material from such project until Congress, by a statue enacted after the date on which the report required by subsection (a) is submitted, removes such suspension.

Terminal facilities. There are four privately owned piers and one public county pier and bulkhead of wooden construction at Menchville. One pier is used for pleasure craft only. The remainder are commercial. There is also a shore landing for the receipt of sand and gravel, several privately owned wooden piers and two marinas are on the south side of the harbor. The wharves have no rail connections, but are served by State highways. The existing facilities are considered adequate for the present commerce.

Operations during fiscal year. Engineering and design were accomplished to perform maintenance dredging. A dredging contract was awarded to Hampton Roads Leasing Corporation, DACW65-03-C-0023 on July 10, 2003. Between July 28 and October 17, 2003, the contractor removed a total of 84,788 cubic yards and placed the material in the Craney Island Rehandling Basin.

Conditions and end of fiscal year. Construction of the project to a depth of 6 feet at mean low water, over depth of 50 to 80 feet, was commenced in March and completed in November 1956. Proposals in recent years to dispose of dredged material on marshy islands in the James River have been environmentally unacceptable. Consequently, periodic maintenance of the project was delayed until fiscal year 1979 and is in progress to restore full project dimensions. Construction of the 1979 modification to extend the harbor upstream by 600 feet and widen the entrance channel

to 100 feet at the harbor entrance has not started.

12. GREENVALE CREEK, VA

Location. Greenvale Creek is a tidal creek located in Lancaster County, VA. The creek is tributary to the Rappahannock River. (See National Ocean Service Chart No. 12237.)

Existing project. The project authorization provides for a channel 6 feet deep and 60 feet wide from that depth in Rappahannock River to the mouth of Greenvale Creek. Once inside the mouth of the creek the channel narrows to 50 feet wide.

Local cooperation. Lancaster County, VA, is the local sponsor and is in full compliance with all items of local cooperation.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. The project requires maintenance dredging. The Norfolk District prepared and issued a maintenance dredging contract solicitation package for bid. Funds expended for fiscal year 2002 enabled the project to progress forward to bid opening. Award of the contract is scheduled for fiscal year 2003.

13. GUILFORD CREEK, VA

Location. Guilford Creek is located in Accomack County, VA, near the communities of Guilford and Parksley, VA, and is tributary to the Chesapeake Bay. (See National Ocean Service Chart No. 12225.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide over a length of about 1 mile, from Beasley Bay into Guilford Creek, and including a turning basin 6 feet deep and 100 feet square. The project also includes construction of a rock groin approximately 140 feet long at the dredged material placement site. Mean range of tide is 2.3 feet.

Local cooperation. Fully complied with. County of Accomack, VA is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. A project condition survey of the channel was performed and distributed to the users.

14. HAMPTON ROADS, VA COLLECTION AND REMOVAL OF DRIFT

Location. Hampton Roads is a natural harbor 300 miles south of New York and 180 miles south of Washington, DC. Its principal tributaries are the James River, affording a natural deep harbor at Newport News, VA; Elizabeth River, with its Southern, Eastern, and Western Branches providing harbors for Norfolk and Portsmouth, VA; and Hampton Creek, serving the harbor at Hampton, VA. (See National Ocean Service Chart Nos.

12248,12245 and 12253.)

Existing project. Collection and removal of drift in Hampton Roads and its tributary waters authorizes the Secretary of the Army to allot necessary amounts of work from Appropriations for main-other available Appropriations and that this work shall be carded on as a separate and distinct project. It is wholly a work of maintenance. The purpose of work is to afford relief from variable conditions of obstruction. No advance estimate of the amount of work is required.

Local cooperation. None required.

Terminal facilities. See Norfolk Harbor, VA, and Channel to Newport News, VA.

Operations during fiscal year. Maintenance: Operation of the project resulted in collection and disposal of a variety of floating refuse. Operations were performed using government plant and hired labor.

15. HOSKINS CREEK, VA

Location. Hoskins Creek is a tidal estuary 2.5 miles long flowing easterly and entering the right bank of the Rappahannock River in Essex County, VA, 42 miles upstream from its mouth in the Chesapeake Bay. It is located at the southern limits of the Town of Tappahannock, VA. (See National Ocean Service Chart No. 12237)

Existing project. Provides for a channel 10 feet deep at mean low water from the 10-foot contour in the Rappahannock River to the US Route-17 Bridge, a distance of approximately 1 mile. The channel width is 100 feet through the entrance to the Rappahannock River and 80 feet within the creek. Also provides a turning basin of the same depth 250 feet long by 200 feet wide, with flared approaches, at the public landing. Mean tidal range is about 1.6 feet.

Local cooperation. Fully complied with. County of Essex, VA is the local sponsor.

Terminal facilities. Two bulkheaded landings and two wharves, with a public boat ramp. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. A condition survey performed in September 2000 was distributed to the locals, Coast Guard and users of the project. A “Plans for Dredging” Survey was performed in February 2003, and engineering and design work continues in support of a planned dredging event for FY 2004.

16. JAMES RIVER, VA

Location. The river is formed by the junction of the Cowpasture and Jackson Rivers in Botetourt County, VA, flows east 340 miles and empties into Hampton Roads at Newport News, VA. (See National Ocean Service Chart Nos. 12248 and 12251.)

Existing project. A channel 25 feet deep and 300 feet wide from the mouth to Hopewell, 25 feet deep and 200 feet from

Hopewell to the Richmond Deepwater Terminal, and a channel 18 feet deep and 200 feet wide from the Deepwater terminal to Richmond Lock; a turning basin at Richmond Deepwater Terminal to 500 feet wide, 2,770 feet long and 25 feet deep; a turning basin in Richmond Harbor 200 feet wide, 600 feet long and 18 feet deep; and construction of spur and training dikes. Depth of channels is referred to mean lower low water. Total length of channel included in the project is 91 miles, which is the navigable section. Mean tidal ranges under ordinary conditions for different parts of the river are: mouth, 2.6 feet; Jamestown, 2 feet; City Point, 2.6 feet; and Richmond, 3.2 feet. Spring tide ranges under ordinary conditions at the same localities are mouth, 3.1 feet; Jamestown, 2.4 feet; City Point, 3 feet; Richmond, 3.2 feet. Ordinary fluctuations of stage at Richmond, due to floods are 6 to 12 feet above mean low water. Extreme fluctuations are 16 to 32 feet. Flood heights below Richmond diminish rapidly. The extreme according to available information is about 11 feet lower at Dutch gap, 14 miles below and 17 to 18 feet lower, 20 miles below. For previous projects, see Annual Report for 1938.

Local cooperation. Fully complied with for conditions imposed by River and Harbor Act of 1962. However, the local sponsor (City of Richmond) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended. Deepening the project from 25 feet to 35 feet, and the widening, authorized by the River and Harbor Act of 1962 has not been started.

Terminal facilities. There are city-owned wharves at Richmond Harbor and at Richmond Deepwater Terminal, and numerous private facilities elsewhere on the James River. The Deepwater Terminal is at the head of the 25-foot deep improved channel, and it serves oceangoing vessels and larger ships engaged in coast-wide trading. For detailed information on the terminal facilities on the James River, see Port Series No. 11, (Revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center. Existing terminal facilities are adequate for present commerce.

Operations during fiscal year. Maintenance dredging was performed under an Indefinite Quantities Contract to remove shoals on several areas of the James River; at Thimble Shoal Channel, Dancing Point – Swann Point Shoal Channel, Richmond Deepwater Terminal to Hopewell, and Richmond Deepwater Terminal. Related work performed during the year included condition surveys, environmental and archeological studies, and engineering investigations related to shoaling and river currents.

17. JONES CREEK, VA

Location. Jones Creek is a tributary to the Pagan River, in Isle of Wight County on the southwest shore of the James River. (See National Ocean Service Chart No. 12248.)

Existing project. Provides for a channel 6 feet deep and 60 feet wide

over a length of about 5,000 feet, from the Pagan River into Jones Creek and as far upstream as the State Highway Route 704 Bridge at Rescue, VA.

Local cooperation. Fully complied with. County of Isle of Wight, VA is the local sponsor.

Terminal facilities. Existing terminal facilities at Rescue, VA are adequate for present commerce.

Operations during fiscal year. None.

18. LYNNHAVEN INLET, VA

Location. On the south shore of the Chesapeake Bay, 5 miles west of Cape Henry, and 10 miles east of Norfolk, VA, the inlet connects Lynnhaven Roads, a part of the Chesapeake Bay, with a network of inland waters in the northern half of the city of VA Beach. (See National Ocean Survey Chart 12254.)

Existing project. An entrance channel from Chesapeake Bay through Lynnhaven Inlet, 10 feet deep and 150 feet wide; a mooring and turning basin inside of Lynnhaven Inlet, 10 feet deep, 1,100 feet long, and 750 feet wide; a channel 9 feet deep and 90 feet wide to extend from the mooring and turning basin into Broad Bay via Long Creek-Broad Bay Canal, a side channel from the basin into Long Creek at a depth of 8 feet and width of 100 feet, and a channel through the Narrows connecting Broad and Linkhorn Bays, 6 feet deep and 90 feet wide. Mean range of tide in Lynnhaven Inlet is about 2 feet with extreme fluctuations of 1.5 feet below and 9.5 feet above mean low water. Range in Lynnhaven Bay is a little more than 2 feet, in Broad and Linkhorn Bays, fluctuations in water level are caused by local winds.

Local cooperation. Fully complied with. The city of Virginia Beach is the local project sponsor. For details see page 308 of Annual Report for 1965.

Terminal facilities. Existing facilities are considered adequate. For details see page 308 of Annual Report for 1970.

Operations during fiscal year. Maintenance dredging was performed on the entrance channel to restore project depth. Navigation and sediment studies were performed to determine the proper alignment of the entrance channel. An archeological study was started to determine any historical significance of a shipwreck that lies adjacent to the entrance channel.

19. NEWPORT NEWS CREEK, VA

Location. On the southern end of the peninsula between the James and York Rivers and within the corporate limits of the city of Newport News. (See National Ocean Survey Chart 12245.)

Existing project. A channel 12 feet deep and with width varying from 150 to 90 feet, from deep water in Hampton Roads to the municipal boat harbor, and including a turning and anchorage basin at the upper end of the same depth, width varying from 188

to 214 feet, and 500 feet in length. Under a Section 107 modification, a portion of the entrance channel 125 feet wide is being deepened to 18 feet, to connect with the adjacent harbor protected with an L-shaped wave screen. Portions of this harbor are also being deepened to 18 feet under Section 107 authority. Mean range of tide is 2.6 feet.

Local cooperation. Fully complied with. The city of Newport News is the local project sponsor.

Terminal facilities. Existing facilities are considered adequate, and the local sponsor is constructing a new pier to service commercial vessels.

Operations during fiscal year. None.

20. NORFOLK HARBOR AND CHANNELS, VA.

Location. Norfolk, VA, is 187 miles south of Baltimore, MD, and 30 miles from entrance to Chesapeake Bay at Cape Charles and Cape Henry. Harbor extends 18.3 miles from 40-foot contour in Hampton Roads to a point 2,500 feet above Norfolk and Western Railway bridge over a Southern Branch of Elizabeth River. (See National Ocean Service Chart Nos. 12245 and 12253.)

Previous projects. For details see Annual Report for 1938.

Existing project. For details see Annual Report for 1993.

HAMPTON ROADS AND ELIZABETH RIVER: A channel 55 feet deep and 1,500 feet wide from that depth in Hampton Roads to a point approximately 6.3 miles upstream from the Hampton Roads Bridge-Tunnel; thence 55 feet deep and 800 feet wide to Lamberts Point; thence 45 feet deep and 750 feet wide to the junction of Southern Branch and Eastern Branch.

Operations during fiscal year. The District is completing Preconstruction, Engineering and Design (PED) for the 50-Foot Inbound Element. Plans and specifications are underway and a Project Cooperation Agreement (PCA) is being developed and negotiated with the Non-Federal Sponsor. Construction scheduled for initiation in calendar year 2004.

EASTERN BRANCH: A channel 25 feet deep and 500 feet wide from the junction of the branches to Norfolk and Western Railway Bridge, from the Norfolk and Western Railway Bridge a channel 25 feet deep and 200 feet wide to the Campostella Bridge, channel 25 feet deep and 200 feet wide to the Norfolk and Western Railway Bridge (formerly Virginian), including a turning basin 25 feet deep and approximately 5.5 acres in size located at the upstream end of the project.

Operations during fiscal year. A condition survey was performed in June of 2003.

WESTERN BRANCH: A channel 24 feet deep and 300 feet wide to a point 0.78 mile from the 40-foot channel, thence 24 feet deep and 200 feet wide for a distance of 0.38 mile; thence 18 feet deep

and 150 feet wide for 0.57 mile to a point 0.34 mile above the West Norfolk Bridge.

Operations during fiscal year. A condition survey was performed in June of 2003.

SCOTTS CREEK: A channel 12 feet deep at mean low water and 100 feet wide from the 40-foot channel for a distance of 0.73 mile.

Operations during fiscal year. A condition survey was performed in May of 2003.

ANCHORAGES: Three fixed mooring anchorage facilities with a depth of 55 feet, each capable of accommodating two large vessels simultaneously; anchorage area on the west side of the 55-foot channel opposite Lamberts Point aggregating 173 acres consisting of open space 1,500 feet square and 38 feet deep, one space 1,500 feet square and 35 feet deep, and one space 3,000 feet long, 1,000 feet wide and 20 feet deep; and 45-acre anchorage, 12 feet deep, near Pinners Point.

Operations during fiscal year. A condition survey was performed on the Hampton Roads 50-Foot Anchorage and Sewells Point Anchorage on November 2002 and 2003, respectively. A maintenance dredging contract to dredge the Sewells Point Anchorage was awarded in July of 2003 and completed in November of 2003; a total of 916,000 cubic yards was removed.

SOUTHERN BRANCH: The southern branch of the Elizabeth River generally oriented and flows south to north, and in the vicinity of this project is bordered on the east bank by the city of Chesapeake. The Southern Branch 40 Foot Deepening element will deepen a 2.5 mile section of the Elizabeth River from its current depth of 35 feet to 40 feet between the Norfolk and Western Railroad Bridge at mile 15, upstream to the U.S. Routes 460 and 13 highway bridge (also known as Gilmerton Bridge) at mile 17.5. This reach of the channel ranges in width between 250 and 500 feet, with an average width of 300 feet. The channel will be widened at selected points to permit vessels to safely negotiate bends. At mile 17.5, in the vicinity of the Gilmerton Bridge, an 800 foot turning basin with a depth of 40 feet will be constructed. In addition, the possible need for modifying the Gilmerton Bridge will be explored as part of this project.

Operations during fiscal year. A contract to maintenance dredge a portion of the Southern Branch from Paradise Creek to Lamberts Bend was awarded in April 2003, with work completed in July 2003; a total of 328,000 cubic yards was removed. Additionally, a condition survey was performed to reflect the work accomplished. Preliminary engineering and design was accomplished in support of maintenance dredging a portion of the Southern Branch from Paradise Creek to the Newton Creek turning basin in FY 2004.

CRANEY ISLAND DREDGED MATERIAL AREA: A dredge material placement area of about 2,500 acres adjacent to and north of Portsmouth, Virginia,

enclosed by stone-faced levee of sand; re-handling basin, approach and exit channels connecting re-handling basin and Norfolk Harbor 55-foot channel.

Operations during fiscal year. Craney Island received 4,279,579 cubic yards of dredged material in 2003. A maintenance dredging contract to dredge the Craney Island Rehandling basin was awarded in December 2002 and completed in March 2003; a total of 1,557,000 cubic yards was removed.

Local cooperation. Fully complied with for dredging the outbound channel to an intermediate depth of 50 feet, which was completed December 15, 1988. A Project Cooperation Agreement (PCA) for the 50-Foot Inbound Element was executed with the Virginia Port Authority (Non-Federal Sponsor) on April 23, 2003. The local sponsor (Virginia Port Authority) is required to furnish cost sharing in accordance with the provisions described in the Water Resources Development Act of 1986, as amended for additional deepening.

Terminal facilities. See Port Series No. 11 (revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

NORFOLK HARBOR CHANNEL:

Operations during fiscal year. Maintenance: A contract to dredge the 45-Ft. and 50-Ft. Channels was awarded in June 2002, with work completed in September 2002; a total of 759,492 cubic yards was removed. In addition to maintenance dredging, work on the project included condition surveys, environmental studies, and preliminary engineering and design in support of maintenance dredging in FY 2004.

THIMBLE SHOAL CHANNEL:

Location. In the lower portion of Chesapeake Bay between Hampton Roads and the ocean, 20 miles northeast of center of Norfolk Harbor, extending southeasterly 12 miles from a point 1.25 miles east of Thimble Shoal lighthouse toward entrance to Chesapeake Bay. (See National Ocean Service Chart No. 12222.)

Existing project. Provides for dredging a channel 12 miles long, 1,000 feet wide, and 55 feet deep at mean low water. To date, both the outbound and the inbound elements have been deepened to a depth of 50 feet. Under ordinary conditions mean tidal range is 2.5 feet and extreme 3 feet. Extremes of irregular fluctuation, due to combined wind and tides referred to mean low water, are minus 3 feet and plus 7 feet.

Local cooperation. Fully complied with for the deepening of the outbound lane to an intermediate depth of 50 feet in 1988. The Commonwealth of Virginia, acting through its agent, the Virginia Port Authority, was the Non-Federal project sponsor and shared in the cost of the improvement. A Project Cooperation Agreement for the deepening of the inbound lane to an intermediate depth of 50 feet is scheduled for execution between the Federal Government and the Commonwealth of Virginia during the third quarter of Fiscal

Year 2003.

Terminal facilities. Project serves as an entrance channel to Hampton Roads. See Port Series No. 11 (revised 1993) on Ports of Hampton Roads, prepared by the Water Resources Support Center.

Operations During Fiscal Year. A "New Work" contract to deepen the inbound element to 50 feet was awarded in August 2003, with work completed in December 2003. A total of 1,828,312 cubic yards of material was removed. In addition to dredging, work consisted of engineering and design for maintenance dredging the outbound element in FY 2004 and monitoring of the Dam Neck Ocean Dredged Material Management Site as required by the EPA.

21. OYSTER CHANNEL, VA

Location. Oyster Channel is located in Northampton County, Virginia, at the town of Oyster, VA. The channel is tributary to Mockhorn Bay on the Virginia Eastern Shore. Vessel access to the project is via the Waterway on the Coast of Virginia (See National Ocean Service Chart No. 12224).

Existing project. Provides for a channel 6 feet deep and 80 feet wide from deep water in Liscombes Channel to and including a turning basin 6 feet deep and 1,100 feet long at Oyster, VA.

Local cooperation. Fully complied with. The county of Northampton, VA, is the local sponsor.

Terminal facilities. Existing terminal facilities are adequate for the present commerce.

Operations during fiscal year. An earthwork contract was awarded in fiscal year 2002 to manage the upland dredged material placement site for Oyster Channel.

22. PAGAN RIVER, VA

Location. Pagan River is located in Isle of Wight County, VA, and is a tributary to the James River. The project provides vessel access to the Town of Smithfield, VA. (See National Ocean Service Chart No. 12248).

Existing project. A channel 10 feet deep at mean low water and 80 feet wide between Smithfield and the 10-foot contour in James River. A traffic survey revealed that the maintenance of a 10-foot deep channel is not justified at this time. A 6-foot deep channel will be maintained until traffic indicates the need for a change.

Local cooperation. The Town of Smithfield is the local sponsor and is in full compliance with items of local cooperation.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. The U.S. Army Corps of Engineers Special Purpose Dredge CURRITUCK was utilized to dredge portions of the Pagan River channel. The Norfolk District also performed after dredging surveys of the

federal channel and paid Rehandling Basin toll charges at the Craney Island Dredged Material Management Area.

23. RUDEE INLET, VA

On the Atlantic Coast of Virginia, within the City of Virginia Beach, approximately 5 miles south of Cape Henry. (See National Ocean Service Chart No. 12205.)

Existing Project. An entrance channel 10 feet deep, 100 to 72 feet wide and 1,605 feet long; an inner channel 7 feet deep, 72 to 53 feet wide and 2,495 feet long, including a safety area 7 feet deep, and approximately 1.9 acres in size and a turning basin 7 feet deep, 175 feet wide and 1,570 feet long; a sand trap 18 feet deep and approximately 3.3 acres in size; and a weir and jetty system at the mouth of the inlet. Mean tidal range is about 3.3 feet.

Local cooperation. Fully complied with. The City of Virginia Beach as local sponsor is required to financially participate in continued annual maintenance as described in the Local Cooperation Agreement, and has fully participated through the current fiscal year.

Terminal facilities. Existing terminal facilities are considered adequate for present commerce.

Operations during fiscal year. A contract to dredge the entrance channel and sand trap was awarded in May 2003. The contract was completed in May 2003; a total of 27,756 cubic yards was removed. The U.S. Army Corps of Engineers Special Purpose Dredge *CURRITUCK* was utilized to dredge the entrance channel during March and July 2003; a total of 28,050 cubic yards was removed. Also, the U.S. Army Corps of Engineers Dredge Merritt performed emergency dredging of the entrance channel in November 2002 and removed 38,550 cubic yards of material.

24. SUPERVISOR OF NORFOLK HARBOR (PREVENTION OF OBSTRUCTIVE AND INJURIOUS DEPOSITS)

The District Engineer, Norfolk District, was designated Supervisor of the harbor of Hampton Roads under the provisions of the River and Harbor Act of June 29, 1888 (33 U.S.C. 441-451), as amended July 12,1952. Under this Act, the Supervisor of the harbor of Hampton Roads is charged with the mission of preventing the deposit of obstructive and injurious materials in the tidal waters of the harbors of Norfolk, Portsmouth, Newport News, Hampton Roads, and their adjacent and tributary waters, so much of the Chesapeake Bay and its tributaries as lies within the state of Virginia, and so much of the Atlantic Ocean and its tributaries as lies within the jurisdiction of the United States within or to the east of the State of Virginia. The River and Harbor Act of March 3, 1899 (33 U.S.C. 403,407,409), as amended, prohibits obstructions to navigable waters such as unauthorized structures, unauthorized fill, deposit of refuse, and sinking of vessels. Other laws relating to the supervision of Norfolk Harbor and its tributary waters are the Clean Water Act, The Marine Protection,

Research and Sanctuaries Act of 1972, the Coastal Zone Management Act of 1969, the Fish and Wildlife Act of 1956, the Federal Power Act of 1920, the National Historic Prevention Act of 1966, the Endangered Species Act of 1973, the Deepwater Port Act of 1972, the Wild and Scenic Rivers Act, and the Land and Water Conservation Fund Act. Direct supervision of the waters under the jurisdiction of the Norfolk District was accomplished by means of two patrol vessels performing inspections, removing debris and investigating navigational hazards and sunken abandoned vessels. A derrick boat and crane barge performs removal of sunken vessels and navigational hazards and supports federal dredging projects. In addition, surveillance of the harbor was performed regarding the Corps' regulatory program, using also two small outboard craft, motor vehicles from land and occasional chartered aerial reconnaissance. This regulatory surveillance involved compliance surveys of permitted activities and evaluation of navigational impacts of proposed piers and other structures.

Operations during fiscal year. None.

25. TYLERS BEACH, VA

Location. Tylers Beach is located on the south shore of the James River in the County of Isle of Wight, VA, in a deep depression known as Burwells Bay about 13 miles above the mouth of the James River. (See National Ocean Service Chart No. 12248)

Existing project. Provides for a harbor of refuge 6 feet deep at mean low water and 150 feet wide and 300 feet long just south of Tylers Beach and a channel 6 feet deep, 50 feet wide, and about 2,350 feet long from that depth in Burwells Bay to the harbor of refuge. The project also includes two stone revetments/jetty structures approximately 370 feet long. Mean tidal range is about 2.4 feet.

Local cooperation. Fully complied with. County of Isle of Wight, VA is the local sponsor.

Terminal facilities. Terminal facilities are adequate for existing commerce.

Operations during fiscal year. A project condition survey of the channel was performed and distributed to the users. Work also consisted of coordination with, and technical assistance to, Isle of Wight County in their efforts to secure a site for placing the dredged material.

26. WATERWAY ON THE COAST OF VA (WCV)

Location. The project is a waterway between the barrier islands along the Atlantic Ocean and Virginia's Eastern Shore on the west. (See National Ocean Service Chart Nos. 12210, 12211, and 12221.)

Existing projects. The waterway is 6 feet deep at mean low water and 60 feet wide. It provides a north-south route approximately 90 miles long from Chincoteague Bay to Chesapeake Bay. WCV provides an essential connection

between many shallow draft harbors along the Eastern Shore. The project includes about 18 shoals that require periodic maintenance dredging. During a typical year an average of about 3 shoals are dredged.

Local cooperation. Accomack and Northampton Counties are the local sponsors for the project. The local sponsors are in compliance with all items of local cooperation. Local interests are to continue furnishing dredged material placement sites for future channel maintenance.

Terminal facilities. Existing facilities are considered adequate.

Operations during fiscal year. A dredging contract was awarded in fiscal year 2001 to dredge shoals in Sloop, North, and Swash Bay Channels. The contract continued into fiscal year 2002 with payment for Swash Bay dredging and dredge plant demobilization occurring with 2002 funds. Other project costs for fiscal year 2002 included supervision and administration of contracts, engineering and design, environmental coordination and monitoring, and project condition surveys.

27. YORK RIVER, VA

Location. This river is formed at West Point, VA by the confluence of the Mattaponi and Pamunkey Rivers, and flows southeasterly about 41 miles into the Chesapeake Bay, which it enters about 20 miles in a northerly direction from Norfolk, VA, and 20 miles in a northwesterly direction from the Atlantic Ocean at Cape Henry. (See National Ocean Service Chart Nos. 12238 and 12243.)

Existing project. Provides for dredging a channel 22 feet deep at mean low water and 4300 feet wide through the bars with a basin of the same depth at the wharves at West Point, and construction of a dike 1.9 miles in length near the west bank at West Point to assist in maintaining the channel. Also provides for dredging a channel 37 feet deep at mean lower low water and 750 feet wide from the 38 foot contour in the Chesapeake Bay to a point adjacent to the piers at the Yorktown Naval Weapons Station, approximately 8 miles above the mouth of the river. Mean range of tide is 2.2 feet at the mouth and 2.9 feet at West Point.

Local cooperation. Fully complied with. Virginia Port Authority was project sponsor and shared in the cost of the improvement to the Entrance Channel.

Terminal facilities. The facilities are considered adequate for the existing commerce.

Operations during fiscal year. A maintenance dredging contract to dredge the York River Entrance channel was awarded in August 2003, with work completed in early December 2003. It is currently estimated a total of 469,000 cubic yards of material was removed. In addition to dredging, a blue crab study for Wolf Trap (alternate) Dredged Material Site was implemented, and should be completed in FY 2004. Coordination with the channel users to assess future needs and strengthen the partnership between project stakeholders

continues.

BEACH EROSION CONTROL

28. CHESAPEAKE BAY SHORELINE, HAMPTON, VA

Location. The city of Hampton is located approximately 135 miles southeast of Washington, D.C. at the junction of Hampton Roads and the Chesapeake Bay. The city is bordered by the Chesapeake Bay on the east; the Chesapeake Bay and Hampton Roads harbor on the south; the city of Newport News on the west; and York County, the city of Poquoson, and the Chesapeake Bay on the north. The city has approximately 6 miles of shoreline which fronts on the Chesapeake Bay and includes the areas of Buckroe Beach, Salt Ponds, White Marsh, Grandview, and Grandview Nature Preserve. The location and orientation of this shoreline on the western side of the southern Chesapeake Bay and immediately within the mouth of the bay have made this area susceptible to damages associated with coastal storms such as hurricanes and northeasters. (See National Ocean Service Chart No. 12222.)

Existing projects. There are a variety of existing coastal protection structures located along the beach within the study area including groins, bulkheads, riprap, and jetties. The condition of these structures ranges from good to completely deteriorated, with ages varying from relatively new to 35 years old. In addition, the city of Hampton has conducted several beach nourishment activities in the study area to provide storm protection and to alleviate the erosion problem, primarily along the public section of Buckroe Beach. However, these projects have been small in scope, given the limited resources of the city.

A Federal feasibility study was authorized by Section 114 of the Water Resources Development Act of 1992 (Public Law 102-580). However, during the course of the feasibility study, the authorization was changed to Section 103 of the River and Harbor Act of 1962 (Public Law 87-874), as amended, due to the limited size and complexity of the project. This is now a Continuing Authorities Program project. The final feasibility report was approved in September 2002 and the design phase was initiated that same month. The Federal project provides a beach in the Buckroe Beach area that is 3,785 feet long with a berm 50 feet wide at elevation 5.4 feet. The local sponsor has requested that it maintain an option of adding the public beach in the Salt Ponds area as a local project that would consist of a berm 50 feet wide at elevation 5.4 feet for a distance of about 2,050 feet.

Local cooperation. The local sponsor, the city of Hampton, provided a letter of intent in March 2002 to cost share in the Federal project.

Operations during fiscal year. FY 2003 funds were used to continue to design phase.

29. SANDBRIDGE, VIRGINIA BEACH, VA

Location. The City of Virginia Beach is located on the southeastern coast of Virginia, bordered by the Atlantic Ocean on the east, Chesapeake Bay on the north, the cities of Norfolk and Chesapeake on the west, and North Carolina on the south (See National Ocean Service Chart 12207.)

Existing project. The plan of improvement includes construction of a fifty foot wide beach berm at elevation six from the Back Bay National Wildlife Refuge to the Dam Neck Naval Base. Periodic beach nourishment every two to thr4ee years will maintain the beach over the 50 year project life. The Project Cooperation Agreement was executed in July 2002 and the initial beach fill was completed in May 2003.

Local cooperation. The local sponsor (City of Virginia Beach) is required to furnish cost sharing in accordance with the provisions described in The Water Resources Development Act of 1986.

Operations during fiscal year. The initial beach berm was completed in May 2003. The sacrificial beach is scheduled for renourishment in the spring of FY 2006.

30. VIRGINIA BEACH, VA (HURRICANE PROTECTION)

Location. The city of Virginia Beach is located on the southeastern coast of Virginia bordered by the Atlantic Ocean on the east, Chesapeake Bay on the north, the cities of Norfolk and Chesapeake on the west, and North Carolina on the south (See National Ocean Service Chart 12207.)

Existing project. The plan of improvement includes construction of a vertical steel sheet-pile wall with concrete cap extending from Rudee Inlet to 58th Street (about 4 miles), enhancement of the existing dune system between 58th Street and 89th Street (about 2 miles), construction and periodic re-nourishment of a widened and raised beach berm between Rudee Inlet and 89th Street (about 6.2 miles), a new boardwalk integrated with the vertical wall which will be placed seaward of the existing boardwalk extending from Rudee Inlet to approximately 40th Street (about 3 miles), a storm water runoff system consisting of the offshore discharge by pumped flow through submarine pipelines, Appropriate beach access structures consisting of ramps and stairs and dune crossover facilities. Periodic beach nourishment will maintain the beach and dune system over the 50 year project life. The Project Cooperation Agreement was executed in June 1996 and the first construction contract was underway in October, 1996. Initial construction of the project is scheduled for completion in September 2004.

Local cooperation. The local sponsor (city of Virginia Beach) is required to furnish cost sharing in accordance with the provisions described in The Water Resources Development Act of 1986.

Operations during fiscal year. The project was in continuing construction: Several corrections were performed on the pump stations. The one remaining element, 79th Street Interceptor, has been scheduled for design and construction starting in late FY 2004 due to lack of Federal

Appropriations. The sacrificial beach is scheduled for4 renourishment in the spring of FY 2004; however, the beach structure is holding up well despite heavy storms and Hurricane Isabel. The renourishment may not be needed this spring.

31. WILLOUGHBY SPIT, NORFOLK, VA

Location. The project area is located in the City of Norfolk, Virginia, and consists of 7.3 miles of southern Chesapeake Bay extending from the tip of Willoughby Spit near the Hampton Roads Bridge-Tunnel to the Federal navigation project at Little Creek Inlet.

Existing project. The Water Resources Development Act of 1986 authorized the project to include the construction and periodic nourishment of a 60-foot wide beach berm, at an elevation of 5.0 feet above mean low water, for the entire shoreline. With the assistance of the Commonwealth of Virginia, the City constructed a series of breakwaters along the Willoughby Spit-Ocean View shoreline in the late 1990s. State funding was discontinued before beach nourishment behind the breakwaters could be accomplished, leaving the project area with a reduced level of protection. Shoreline recession is a major problem in the easternmost portion of the shoreline. The Norfolk District is currently conducting a reconnaissance-type investigation to determine if the authorized project is still economically viable, is still in the federal interest to construct, and requires any modifications to meet the current needs and conditions of the project area. This effort will be followed with Preconstruction, Engineering, and Design investigations to include the conduct of a General Reevaluation study to determine continued Federal interest in the authorized project or a reformulated project.

Local cooperation. None required at this time. A Design Agreement will require execution prior to the start of the Preconstruction, Engineering, and Design investigations.

Operations during fiscal year. None.

FLOOD CONTROL

32. EMERGENCY FLOOD CONTROL ACTIVITIES

During FY 2003, a total of $28,777 was spent on Catastrophic Disaster Preparedness Program (Approp ($000). 96X3123), and $331,772 on Flood Control and Coastal Emergencies including Emergency Operations (Approp ($000). 96X3125).

33. GATHRIGHT DAM AND LAKE MOOMAW, VA

Location. Gathright Dam is on the Jackson River, a tributary of James River at mile 43.4 in Allegheny County. Gathright Dam site is in the reach of the Jackson River known as the Gorge, about 19 miles upstream from Covington, VA. At the elevation of the top of the conservation pool, the lake extends upstream about 9 miles.

(See Falling Spring and Mountain Grove, Virginia-West Virginia quadrangles of geological survey.)

Existing project. Gathright Dam consists of a 1,172-foot long, rolled-rock-fill dam with an impervious core, with the top at elevation 1,684.5; outlet works consisting of a concrete intake structure located in the right bank 500 feet upstream from the axis of the dam: a 1,075-foot long outlet tunnel through the right abutment and a stilling basin; and a 2,450-foot long fixed-crest emergency spillway excavated in a low saddle in the divide at Fortney Branch about 2.5 miles south of the dam. Discharges through the maximum conservation port elevation 1,582 will be provided for water quality control. The reservoir area at elevation 1,582 will be 2,530 acres. A total of 302,000 acre-feet of storage between elevation 1,582 and the spillway crest (elevation 1,663.5) will be reserved for flood control. At the spillway crest the reservoir will have an area of 4,540 acres.

Local cooperation. None required.

Operations during fiscal year. Care of service and recreational facilities, water control management, testing and monitoring, supervision and administration and engineering and design.

ENVIRONMENTAL RESTORATION

34. AVTEX, FRONT ROYAL, VA

Location. The AVTEX Fibers Plant is located in Front Royal, Virginia, along the Shenandoah River in the foothills of the Blue Ridge Mountains.

Existing project. AVTEX Fibers Plant is located on a 502-acre site. From 1940 to 1989, the plant manufactured rayon, polyester and polypropylene for the defense and space industries. In 1986 the facility was identified by EPA as a Superfund site. The plant was closed in 1989, the closure left the site unusable due to HTRW material. Specific work to be performed by the Norfolk District is considered Non-Superfund work such as asbestos containing materials, lead-based paint, and building demolition.

Work is divided into four phases. The first phase of work (Section 2) was completed in December 2002. The second phase (Section 1) was completed in November 2003. The third phase (Sections 5, 6. And 7) started in August 2003 with a small amount of available funding remaining.

The project has been funded incrementally from three sources: (1) CG funding authorized under Section 591 of the Water Resources Development Act (WRDA) of 1999. Initially $7,000,000 was authorized, an additional $5,000,000 was Appropriated in FY 2004, but is pending authorization. (2) FUDS, military funding in the amount of $5,000,000 was also initially authorized. (3) OEA (Office of Economic Adjustment) military funding was Appropriated in the FY 2004 Defense Bill. This funding is currently being used to complete the third phase of work and to initiate the fourth and last phase of work.

Local cooperation. None required.

Operations during fiscal year. The third phase of work continued in February 224 with the new FY 2004 (OEA) funding, this phase is expected to be completed in August 2004. The fourth and last phase (Powerhouse Complex) is expected to start in June 2004. Completion of this phase is contingent on the availability of an additional $5,000,000 CG funding Appropriated by Congress in FY 2004, but not yet authorized. Authorization requires an amended Section 591 of the Water Resources Development Act (WRDA) of 1999.

35. CHESAPEAKE BAY OYSTER RECOVERY, VA

Location. Tangier Sound.

Existing Projects. Project is authorized by WRDA 1986 as amended. Construction of 150 acres of 2-D reefs and 8 acres of 3-D reefs were completed Sep 2002. These reefs were seeded with disease tolerant oyster seed in April 2003. Recent monitoring of the project sites indicates that the reefs and newly seeded oysters are doing very well. The next restoration project is the Great Wicomico River. In the summer of 2004, approximately $2M is budgeted for the seeding of existing reefs constructed by the Commonwealth of Virginia and the construction of new reefs and seeding the new reefs with disease tolerant oyster seed. Planning is also underway for large restoration projects in the Lynnhaven and Piankatank Rivers. Native oysters have been identified as an important component to the Bay eco-system due to its natural ability to filter water. Oyster population has declined to a dangerous level due to years of over harvesting, diseases, and pollution.

Local cooperation. Commonwealth of Virginia is funding 25% of the project cost through in-kind services.

Operations during fiscal year. $2M will be expended for seeding of existing reefs in the Great Wicomico River with disease tolerant oyster seed, construction of new oyster reefs, and the seeding of those reefs with disease tolerant oyster seed. Monitoring of the Tangier project site will continue.

36. CSO, LYNCHBURG, VA

Location. Lynchburg, Virginia.

Existing project. The project consists of the study and design for the replacement of approximately 39,000 feet of the James River Combined Sewer Overflow Interceptor and other CSO interceptors and outfalls.

Local cooperation. The local sponsor is the City of Lynchburg, Virginia.

Operations during fiscal year. Studies and design are ongoing

37. CSO, RICHMOND, VA

Location. Richmond, Virginia.

Existing project. The project consists of studies to support the re-

evaluation of City of Richmond's Combined Sewer Overflow Long Term Control Plan (LTCP). Work will include reliability and interface planning for Combined Sewer Overflow and Dry Weather Flow facilities and the Wastewater Treatment Plant and Satellite locations.

Local cooperation. The local sponsor is the City of Richmond, Virginia.

Operations during fiscal year. Studies and design are continuing.

38. DISMAL SWAMP & DISMAL SWAMP CANAL, VA

Location. The project is located in the City of Chesapeake, Virginia, centered around a portion of the Atlantic Intracoastal Waterway approximately 64.6 miles long between the mouth of Deep Creek, Virginia, and the mouth of Pasquotank River, North Carolina. The route is shown on National Ocean Service Chart 12206.

Existing project. A channel 10 feet deep at mean low water and 90 to 100 feet wide in Deep Creek, 3.1 miles, Turners Cut, 4.3 miles and Pasqotank River, 35.0 miles; maintaining Dismal Swamp Canal, 22.1 miles, to about 9 feet deep mean canal level over a width of 50 feet; protection of banks in Turners Cut with sheet piling, and cutting curtain sharp points in Pasquotank River to shorten its course. Project includes operating and care of completed locks, dams and bridges. The Deep Creek section of the route is tidal, mean range being about 3 feet with extremes of minus 3.5 and plus 9.6 feet. Remaining sections are non-tidal with fluctuations of 1 to 2 feet in level due to winds.

Local cooperation. The local sponsor has submitted a letter of intent to cost share in the project.

Operations during fiscal year. Norfolk District initiated a Reconnaissance Report that is scheduled for completion in FY 2004.

39. ELIZABETH RIVER BASIN, ENVIRONMENTAL RESTORATION, PHASE I, VA

Location. In general, the study area encompasses the entire Elizabeth River Basin, which includes Suffolk, Portsmouth, Chesapeake, Norfolk, and Virginia Beach, within the Southside Hampton Roads area of southeastern Virginia. The Elizabeth River is approximately 20 miles in length and has a drainage area of about 165 square miles. The river is tidal and empties into the Hampton Roads Harbor in the lower Chesapeake Bay. The specific project area for sediment clean up is the Scuffletown Creek area, a tributary to the Southern Branch of the Elizabeth River, located on the east bank approximately two nautical miles from the Eastern Branch/Southern Branch confluence in the City of Chesapeake.

Existing project. The recommended plan (National Ecosystem Restoration Plan or NER) for addressing the environmental problems and needs in the Elizabeth River Basin, as presented in detail in the Final Feasibility Report and

Environmental Assessment, dated June 2001, is environmental restoration which would involve a combination of both sediment restoration or clean-up at Scuffletown Creek, a tributary to the Southern Branch of the river, and wetland restoration at eight different sites throughout the river system.

Sediment restoration involves environmental dredging, transport of dredged material by barge or truck, permanent placement in a dredged material placement site; and/or temporary placement, treatment, and permanent placement in a regulated landfill. Sediment restoration will result in improved bottom community abundance and diversity, reduced fish cancers, and reduced bottom sediment contaminants and toxicity.

Local cooperation. A Design Agreement will require execution prior to the start of the Preconstruction, Engineering, and Design investigations and is under negotiations at this time. A Project Cooperation Agreement will require execution prior to project construction.

Operations during fiscal year. None.

40. ELIZABETH RIVER BASIN, ENVIRONMENTAL RESTORATION, PHASE II, VA

Location. In general, the study area encompasses the entire Elizabeth River Basin, which includes Suffolk, Portsmouth, Chesapeake, Norfolk, and Virginia Beach, within the Southside Hampton Roads area of southeastern Virginia. The Elizabeth River is approximately 20 miles in length and has a drainage area of about 165 square miles. The river is tidal and empties into the lower Chesapeake Bay.

Existing project. The second feasibility study will address sediment contamination sites in the Elizabeth River identified, but not addressed in detail in the first interim feasibility report. The primary sites under consideration are Eppinger and Russell and Paradise Creek.

Local cooperation. A Feasibility Cost Share Agreement will require execution prior to the start of the second feasibility study and is under negotiations at this time.

Operations during fiscal year. None.

41. LAKE MERRIWEATHER, LITTLE CALFPASTURE, GOSHEN, VA

Location. Goshen, Virginia, is located in the western part of Virginia, approximately 30 miles west of Lexington, Virginia.

Existing project. The project consists of the repair and upgrade of the Goshen Dam and Appurtenant Features to include fixing (setting) the existing spillway crest at elevation 1369 and providing roller compacted concrete armor of the dam embankment.

Local cooperation. The local sponsor is the Commonwealth of Virginia.

Operations during fiscal year. The project was ongoing with final design completed. The PCA is scheduled to be executed in July 2004.

42. RAPPAHANNOCK RIVER, VA

Location. Fredericksburg, Virginia.

Existing project. The project will provide for fish passage by removal of the Embrey Dam located at approximately river mile 109. Also included in the project is sediment removal and placement, bank stabilization and reparian restoration behind the dam and preservation of the historic Rappahannock Canal.

Local cooperation. The local sponsor is the City of Fredericksburg, Virginia.

Operations during fiscal year. The Project Cooperation Agreement was executed on December 2, 2002. The first phase of the project, removal of sediment behind the Embrey Dam, was awarded in April 2003. Removal of the dam will be completed by February 2006.

43. TANGIER ISLAND, VA

Location. Tangier Island is located in the Chesapeake Bay approximately 90 miles Southeast of Washington, DC, and is entirely within the political boundaries of Accomack County on Virginia's Eastern Shore. The island is about 5 miles long and 1-1/2 miles wide, and, with the exception of three sand ridges, it composed of low marshland and tidal flats.

Over 50 percent of the submerged aquatic vegetation (SAV) in the waters adjacent to the island has been lost during the 1990s. SAV is prime habitat for young blue crabs. Since these waters are a significant crab nursery for the Chesapeake Bay, the economic impact could be severe. (See National Ocean Service Chart No. 12228.)

Existing Projects. Three Corps of Engineers projects are located in the vicinity of the island. The Tangier Channel to the Chesapeake Bay (or North Channel) provides a channel 7 feet deep and 60 feet wide from the anchorage basin at the town of Tangier, northwesterly through Tangier Creek to the Chesapeake Bay, a distance of 0.7 mile. The anchorage basin is 7 feet deep and 400 feet square. The Tangier Channel to Tangier Sound provides a channel which approaches the island from the east and is 8 feet deep and 100 feet wide and 0.2 mile long in Tangier Sound; thence 8 feet deep and 60 feet wide and 0.9 mile long to the anchorage basin. The Tangier Seawall project provides over one mile of shore protection to the island's west coast, south of the North Channel.

A Federal Continuing Authorities Program study as authorized by Section 206 (Aquatic Ecosystem Restoration) of the Water Resources Development Act of 1996 (Public Law 104-303), as amended. Various solutions to the SAV losses are being considered in the Feasibility Phase, such as a chain of unconnected, low-sill breakwaters around the southern end of Goose Island, another chain around the northern end of

Tangier Island, and a third chain along the western side of Tangier Island. The primary benefits of the project would be to protect the existing environmental resources and to restore an estimated 17.22 million square feet (395 acres) of current open bottom to dense SAV coverage and, consequently, to support up to an additional 48 million juvenile blue crabs and make a significant contribution toward increasing numbers of blue crabs in the bay. There would also be benefits to the finfish, shellfish, and waterfowl populations. Various other options are being considered in the Feasibility Phase.

Local cooperation. The local sponsor, the Town of Tangier, provided a letter of intent in October 2001 to cost share in subsequent phases of the project.

Terminal facilities. The existing facilities at Tangier are considered adequate for current and prospective traffic.

Operations during fiscal year. FY 2003 funds were used to continue the feasibility study.

GENERAL INVESTIGATIONS

44. FLOOD PLAIN MANAGEMENT SERVICES PROGRAM

The Flood Plain Management Services Program (FPMS) provides various water resources related technical services and planning guidance to federal, state, and local governments, and private requestors. Typical assistance includes quick responses for readily available information, providing guides and pamphlets, flood hazard evaluations, hurricane evacuation planning, etc. FPMS funding for FY 2003 was $130,000, which represented less than half of FY 2002 funding; no funds were provided for the Virginia Hurricane Evacuation Study.

45. GENERAL INVESTIGATION SURVEYS

Total cost of surveys during the fiscal year amounted to $2,261,147. The work consisted of feasibility studies for Elizabeth River $232,400, Craney Island $778,300 (Fed)/ $279,100 (non-Fed), Hampton Shoreline $193,400 (Fed)/ $184,800 (non-Fed) , Deep Creek $372,747, and Embrey Dam $20,800. Also work consisted of Interagency Water Resources Development $28,900; Special Investigations, $33,400; FPMS and Section 22 $137,300.

46. PLANNING ASSISTANCE TO STATES, SECTION 22, VA

Storm Water Management Plan (Storm Water Service Fee), City of Charlottesville, VA. A storm water service fee was developed to assist the City of Charlottesville, located in the upper reaches of the James River basin. It identifies four potential levels of service that the City could use for VPDEs permit compliance and administration, system operation and maintenance, and capital improvements. The city of Charlottesville, Virginia, is the cost-sharing sponsor.

Storm Water Management Plan

(Part II), City of Colonial Heights, VA. A storm water management plan was developed for the City of Colonial Heights, Virginia, located in the middle reaches of the James River Basin. The management plan consisted of mapping, development of data bases, and the public education and involvement program to satisfy the requirements of the Virginia Pollution Discharge Elimination System Phase II storm water permit. The study incorporates a system of mapping of storm water outfalls, BMPs, facilities inventory, a web site for public based information dissemination, as well as the costs for development of a number of BMPs. The City of Colonial Heights, Virginia is the cost-sharing sponsor.

Storm Water Management Plan (39th Drainage Study), City of Newport News, VA. A storm water management plan was developed for the City of Newport News, Virginia, located in the lower reaches of the James River Basin. The plan consisted of GIS base maps, outlining of drainage areas, development of rainfall hydrology, and modeling of the 10-year, 25-year, 50-year, and 100-year rainfall events. The City of Newport News, Virginia, is the cost-sharing sponsor.

Update of the Master Drainage Plan (Phase I), City of Chesapeake, VA. An update to the master drainage plan (originally prepared by the City of Chesapeake in 1988) was developed for the City of Chesapeake, Virginia, located in the Elizabeth River Basin. The work consisted of the development of a PC-SWIM (Storm Water Management) model of the Milldam Creek watershed and the evaluation of the adequacy of the existing pro rata program for development charges. The City of Chesapeake, Virginia, is the cost-sharing sponsor.

47. WORK UNDER CONTINUING AUTHORITY PROGRAM

The district continues work on Section 107 (navigation) studies: Messick Point, Back River, VA, has completed construction and project close out activities have been initiated; Starlings Creek, VA continuing the feasibility phase; Nassawaddox Creek, VA, initiating the feasibility phase. In addition, the district continues work on one Section 205 (Small Flood Control) study, Jamestown Island, VA, initiating the feasibility phase.

INSPECTION OF COMPLETED WORKS

48. INSPECTION OF COMPLETED WORKS

This year's work consisted of inspections and reports of seven completed local flood protection and civil works projects in the Norfolk District for an expenditure of $57,000. The projects were constructed by the Corps, and are operated/maintained by local interests.

Projects inspected included: Hampton Institute Shore Protection, Jamestown Park Shore Protection, Norfolk Floodwall, Newmarket Creek Ditch, Richmond Floodwall, Buena Vista Flood Protection and Richmond Filtration Plant.

Table 5-A OTHER AUTHORIZED SHORE PROTECTION PROJECTS

Project	For Last Full Report, See Annual Report For:	Cost to Sept 30, 2002 Construction	Maintenance	Additional Expenditure Expended From Contributed Funds
206--Acquatic Eco Restoration				
Chesapeake Bay Shoreline Hampton	2001	1,245,500	-	783,000
Saxis Island, VA	1987	273,600	-	3,145

Table 5-B OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report, See Annual Report For:	Cost to Sept 30, 2002 Construction	Maintenance	Additional Expenditure Expended From Contributed Funds
James R. Olin Flood Control Project				
Buena Vista, VA		Total Expenditure $ 18,500.00		
Gathright Dam & Lake Moomaw		Total Expenditure $1,471,653.48		
Newmarket Creek, VA		Total Expenditure $ 3,000.00		
Norfolk Floodwall, VA		Total Expenditure $ 5,000.00		
Scottsville, VA		Total Expenditure $		
Virginia Beach Canal No. 2, VA		Total Expenditure $		

Table 5-C RECONNAISSANCE AND CONDITION SURVEYS

PROJECT NAME	MONTH/YEAR	TYPE OF SURVEY
Aberdeen Creek	01-03	Condition
Anchorage F	11-02	Condition
Atlantic Ocean Channel	05-03	Condition
Bennetts Creek	6-03	Condition
Blackwater River (PCS)	08-03	Condition
Broad Creek (PCS)	04-03	Condition
Cape Charles	1-02	Condition
Cape Henry Channel	09-03	Condition
Carters Creek	10-02	Condition
Channel to Newport News	02-03 and 09-03	Condition
Channel to Phoebus	06-03	Condition
Chincoteague Inlet	09-03	Condition
Chincoteague Channel	09-03	Condition
Cranes Creek	9-02	Condition
Deep Creek Accomack (PCS)	06-03	Condition
Dymers Creek	9-02	Condition
Guilford Creek	06-03	Condition
Hampton and Herberts Creek (PCS)	04-03	Condition
Horn Harbor	7-02	Condition
Jackson Creek	5-02	Condition
Jones Creek (PCS)	04-03	Condition
Lafayette River	07-03	Condition
Little Machipongo River	07-03	Condition
Milford Haven	02-03	Condition
Mill Creek	9-02	Condition
Nandua Creek	08-03	Condition
Nassawadox Creek	05-03	Condition
Newport News Anchorage	02-03	Condition
Norfolk Harbor 50’	09-03	Condition
Occohannock Creek	08-03	Condition
Pagan River (PCS)	06-03	Condition
Parrotts Creek	9-02	Condition
Queens Creek (PCS)	04-03	Condition
Scotts Creek	05-03	Condition
Tangier Channel	03-03	Condition
Tangier Island	09-03	Reconaissance
Winter Harbor	09-03	Condition
Wisharts Point	11-02	Condition
Channel to Newport News	02-03	Condition
James River: City Point Shoal	01-03	Condition
James River: Goose Hill Channel	03-03	Condition
James River: Richmond DWT to Hopewell	03-03	Condition

PROJECT NAME	MONTH/YEAR	TYPE OF SURVEY
James River: Richmond Deepwater Terminal)	07-03	Condition
James River: Richmond Harbor	03-03	Condition
James River: Richmond Harbor to Richmond DWT	06-03	Condition
Lynnhaven Inlet	02-03	Condition
WCV Bogues Bay	02-03	Condition
WCV Cedar Island Bay	04-03	Condition
WCV Gargathy Inlet to Wire Passage	01-03	Condition
WCV Hog Creek and Hog Neck Creek	03-03	Condition
WCV Magothy Bay Channel	04-03	Condition
WCV Northam Narrows	03-03	Condition
WCV Sloop Channel	04-03	Condition
WCV Swash Bay	03-03	Condition
Elizabeth River Eastern Branch	06-03	Condition
Elizabeth River Western Branch	06-03	Condition
Rappahannock Shoal Channel	07-03	Condition
York River (Proportank and West Point Bar) (PCS)	04-03	Condition

Table 5-D ATLANTIC INTRACOASTAL WATERWAY BETWEEN NORFOLK, VIRGINIA, AND ST JOHN'S RIVER, FLORIDA: DATA RELATIVE TO THE COMPLETED LOCKS

Miles from Norfolk, Virginia	Location	Width of Chamber (feet)	Dimensions Greatest Length Available for full Width (feet)	Lift (feet)	Depth Miter Upper (feet)	On Sills Lower (feet)	Character of foundation	Year Opened to Navigation	Construction Cost
12.4	Albemarle &Chesapeake Canal (Great Bridge, VA)	75	600	2.7	1	1	Piles in Sand and Shells	1932	$499,913
10.7	Dismal Swamp Canal (Deep Creek, VA)	52	300	12	12	12	Natural Earth with Cutoff Walls	1940	$348,879
33.1	Dismal Swamp Canal (South Mills, NC)	52	300	12	12	13	Natural Earth with Cutoff Walls	1941	$373,226

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
1.	**Appomattox River, VA**	Maintenance					
		Approp ($000)	300	379	572	719	951
		Cost ($000)	299	349	386	491	628
2.	**Atlantic Intracoastal Waterway**	Maintenance					
	Between Norfolk, VA	Approp ($000)	1437	1522	1540	1723	
	& St. Johns River, FL	Cost ($000)	1465	1520	1656	2001	
3.	**Atlantic Intracoastal Waterway**	New Work					
	At Deep Creek, VA	Approp ($000)	373	379	318	375	200
		Cost ($000)	313	316	373	641	0
4.	**Atlantic Intracoastal Waterway**	New Work					
	At Great Bridge, VA	Approp ($000)	4687	5072	0	8453	
		Cost ($000)	327	805	0	8689	
5.	**Back River, Poquoson, VA**	Maintenance					
		Approp ($000)	1	129	--	254	
		Cost ($000)	20	55	--	201	
6.	**Bennett's Creek, VA**	Maintenance					
		Approp ($000)	--	--	0	--	0
		Cost ($000)	--	--	70	--	89
7.	**Channel to Newport News, VA**	Maintenance					
		Approp ($000)	640	44	115	--	--
		Cost ($000)	505	44	114	--	--

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
8.	**Chincoteague Bay, VA**	Maintenance					
		Approp ($000)	--	--	413	--	--
		Cost ($000)	--	--	210	--	30
9.	**Chincoteague Inlet, VA**	Maintenance					
		Approp ($000)	550	717	715	862	1070
		Cost ($000)	342	693	111	1540	244
10.	**Craney Island Eastward Expansion, VA**	New Work					
		Approp ($000)	210	916	1429	125	
		Cost ($000)	277	871	1057	125	
		Maintenance					
		Approp ($000)	--				
		Cost ($000)	--				
11.	**Deep Creek, Newport News, VA**	Maintenance	--	--	--	--	--
		Approp ($000)	--	--	--	--	--
		Cost ($000)					
12.	**Greenvale Creek**	Maintenance					
		Approp ($000)	--	--	--	0	151
		Cost ($000)	--	14	--	24	28
13.	**Guilford Creek, VA**	Maintenance					
		Approp ($000)	30	0	0	0	0
		Cost ($000)	7	4	4	93	93

TABLE 5E -- Cost and Financial Statement

See Section In Text	Funding	FY99	FY00	FY01	FY02	FY03
14. Hampton Roads, VA, Collection & Removal of Drift	Maintenance					
	Approp ($000)					
	Cost ($000)					
15. Hoskins Creek	Maintenance					
	Approp ($000)	--	--	--	0	45
	Cost ($000)	--	--	--	29	45
16. James River, VA	Maintenance					
	Approp ($000)	4086	4947	4144	3533	--
	Cost ($000)	4193	3546	3161	2902	3697
17. Jones Creek, VA	Maintenance					
	Approp ($000)					
	Cost ($000)					
18. Lynnhaven Inlet, VA	New Work					
	Approp ($000)	--	--	100	890	405.0
	Cost ($000)	--	--	336	921	396.3
19. Newport News Creek, VA	Maintenance					
	Approp ($000)	40				
	Cost ($000)	11				

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
20.	**Norfolk Harbor & Channels, VA**	New Work					
		Approp ($000)	5429	6305	5614	6182	8261
		Cost ($000)	5703	8151	7066	6752	10099
		Maintenance					
		Approp ($000)	1913				
		Cost ($000)	1917				
21.	**Oyster Channel, VA**	Maintenance					
		Approp ($000)	40	--	--	0	0
		Cost ($000)	40	--	--	231	20
22.	**Pagan River, VA**	Maintenance					
		Approp ($000)	50	141	140	139	--
		Cost ($000)	44	163	59	138	--
		Maintenance					
		Approp ($000)					
		Cost ($000)					
23.	**Rudee Inlet, VA**	Maintenance					
		Approp ($000)	594	872	512	1011	980
		Cost ($000)	593	608	674	850	846
		Maintenance					
		Approp ($000)					
		Cost ($000)					

TABLE 5E -- Cost and Financial Statement

See Section In Text	Funding	FY99	FY00	FY01	FY02	FY03
24. Supervisor of Norfolk Harbor (Prevention of Obstructive & Injurious Deposits)	New Work					
	Approp ($000)					
	Cost ($000)					
25. Tylers Beach, VA	Maintenance					
	Approp ($000)	--	102	10	102	30
	Cost ($000)	--	43	8	52	18
26. Waterway on the Coast of VA	Maintenance					
	Approp ($000)	815	1149	828	742	1095
	Cost ($000)	500	486	1324	793	919
27. York River, VA	Maintenance					
	Approp ($000)	--	--	--	149	714
	Cost ($000)	--	--	--	182	1065
28. Chesapeake Bay Shoreline, Hampton, VA	New Work					
	Approp ($000)	126	269	170	125	276
	Cost ($000)	121	200	193	111	329
29. Sandbridge, VA	New Work					
	Approp ($000)	--			2851	
	Cost ($000)	--			464	

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
30.	**Virginia Beach, VA (Hurricane Protection**	New Work					
		Approp ($000)	24042	17014		2500	
		Cost ($000)	23751	16140		8591	
31.	**Willoughby Spit, Norfolk, VA**	New Work					
		Approp ($000)	6				
		Cost ($000)	6				
32.	**Emergency Flood Control Activities**	New Work					
		Approp ($000)					
		Cost ($000)					
33.	**Gathright Dam & Lake Moomaw, VA**	New Work					
		Approp ($000)	1502	159	1314	1523	1534
		Cost ($000)	1627	1281	1481	1467	1666
34.	**Avtex, Front Royal, VA**	New Work					
		Approp ($000)		4134	5880		
		Cost ($000)		2622	814		
35.	**Chesapeake Bay Oyster Recovery**	New Work					
		Approp ($000)		0	802	1646	
		Cost ($000)		43	830	2880	

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
36.	**CSO Lynchburg**	New Work					
		Approp ($000)	905	430		840	
		Cost ($000)	475	380		176	
37.	**CSO Richmond**	New Work					
		Approp ($000)	744	670		1471	
		Cost ($000)	74	9		510	
38.	**Dismal Swamp & Dismal Swamp Canal, VA**	New Work					
		Approp ($000)					
		Cost ($000)					
39.	**Elizabeth River Basin Environmental Restoration Phase I**	New Work					
		Approp ($000)	508	292	236	200	
		Cost ($000)	540	340	232	168	
40.	**Elizabeth River Basin Environmental Restoration Phase II**	New Work					
		Approp ($000)					
		Cost ($000)					
41.	**Lake Merriweather Calfpasture**	New Work					
		Approp ($000)	125	1	83410		
		Cost ($000)	149	1			

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
42.	**Rappahannock (Embrey Dam)**	New Work					
		Approp ($000)	189	218	200		
		Cost ($000)	143	197	8		
43.	**Tangier Island**	New Work					
		Approp ($000)	--	629	373	75	--
		Cost ($000)	--	245	334	117	--
44.	**Flood Plain Management Services Program (FPMS) & Hurricane Evacuation ReStudy Program (HES)**	New Work					
		Approp ($000)	--	25	272	302	130
		Cost ($000)					
45.	**General Investigation Survey**	New Work					
		Approp ($000)					
		Cost ($000)					
46.	**Planning Assistance to States, Section 22**	New Work					
		Approp ($000)					
		Cost ($000)					
47.	**Work Under Continuing Authorities Program**	New Work					
		Approp ($000)	189	218	200		
		Cost ($000)	143	197	8		

TABLE 5E -- Cost and Financial Statement

See Section In Text		Funding	FY99	FY00	FY01	FY02	FY03
48.	**Inspection of Completed Work**	New Work					
		Approp ($000)	72	57	75	19	106
		Cost ($000)	71	56	62	53	83